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IDENTIFIERS Military Curriculum Project

ABSTRACT

This second course of a two-course, postsecondary-level series for medical service specialist is one of a number of military-developed curriculum packages selected for adaptation to vocational instruction and curriculum development in a civilian setting. The purpose stated for the 89-hour course is to provide training in the basic theory and skills for providing nursing care and treatment to patients in medical wards, dispensaries, and clinics. Information and training is designed for students at the apprentice level. Three blocks of instruction cover Specialized Nursing Care I (patients with respiratory, endocrine, and orthopedic disorders; cardiopulmonary resuscitation; terminal illness and postmortem care; nursing care planning; outpatient and emergency services; and emergency care), Specialized Nursing Care II (medical terminology, patients with neurological and urological disorders, obstetrical patient and newborn, pediatric patient, and administration of medications), and Specialized Nursing Care III (patients with mental health, circulatory, maxillofacial or EENT, skin, and gastrointestinal disorders; and geriatric and chronically ill patients). Instructor materials include a course chart and plan of instruction detailing the units of instruction, criterion objectives, and support materials needed. Student materials include 20 study guides or workbooks with exercises and problems, a handout of case studies, and a programed text. Suggested audiovisual aids are not provided. (YLB)

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MILITARY CURRICULUM MATERIALS

The military-developed curriculum materials in this course package were selected by the National Center for Research in Vocational Education Military Curriculum Project for dissemination to the six regional Curriculum Coordination Centers and other instructional materials agencies. The purpose of disseminating these courses was to make curriculum materials developed by the military more accessible to vocational educators in the civilian setting.

The course materials were acquired, evaluated by project staff and practitioners in the field, and prepared for dissemination. Materials which were specific to the military were deleted, copyrighted materials were either omitted or approval for their use was obtained. These course packages contain curriculum resource materials which can be adapted to support vocational instruction and curriculum development.

Military Curriculum Materials Dissemination Is . . .

an activity to increase the accessibility of military developed curriculum materials to vocational and technical educators.

This project, funded by the U.S. Office of Education, includes the identification and acquisition of curriculum materials in print form from the Coast Guard, Air Force, Army, Marine Corps and Navy.

Access to military curriculum materials is provided through a "Joint Memorandum of Understanding" between the U.S. Office of Education and the Department of Defense.

The acquired materials are reviewed by staff and subject matter specialists, and courses deemed applicable to vocational and technical education are selected for dissemination.

The National Center for Research in Vocational Education is the U.S. Office of Education's designated representative to acquire the materials and conduct the project activities.

Project Staff:

Wesley E. Budke, Ph.D., Director
National Center Clearinghouse

Shirley A. Chase, Ph.D.
Project Director

What Materials Are Available?

One hundred twenty courses on microfiche (thirteen in paper form) and descriptions of each have been provided to the vocational Curriculum Coordination Centers and other instructional materials agencies for dissemination.

Course materials include programmed instruction, curriculum outlines, instructor guides, student workbooks and technical manuals.

The 120 courses represent the following sixteen vocational subject areas:

- Agriculture
- Aviation
- Building & Construction Trades
- Clerical Occupations
- Communications
- Drafting
- Electronics
- Engine Mechanics
- Food Service
- Health
- Heating & Air Conditioning
- Machine Shop
- Management & Supervision
- Meteorology & Navigation
- Photography
- Public Service

The number of courses and the subject areas represented will expand as additional materials with application to vocational and technical education are identified and selected for dissemination.

How Can These Materials Be Obtained?

Contact the Curriculum Coordination Center in your region for information on obtaining materials (e.g., availability and cost). They will respond to your request directly or refer you to an instructional materials agency closer to you.

CURRICULUM COORDINATION CENTERS

EAST CENTRAL
Rebecca S. Douglass
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Springfield, IL 62777
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The National Center Mission Statement

The National Center for Research in Vocational Education's mission is to increase the ability of diverse agencies, institutions, and organizations to solve educational problems relating to individual career planning, preparation, and progression. The National Center fulfills its mission by:

- Generating knowledge through research
- Developing educational programs and products
- Evaluating individual program needs and outcomes
- Installing educational programs and products
- Operating information systems and services
- Conducting leadership development and training programs

FOR FURTHER INFORMATION ABOUT
Military Curriculum Materials
WRITE OR CALL
Program Information Office
The National Center for Research in Vocational Education
The Ohio State University
1960 Kenny Road, Columbus, Ohio 43210
Telephone: 614/486-3655 or Toll Free 800/848-4815 within the continental U.S. (except Ohio)

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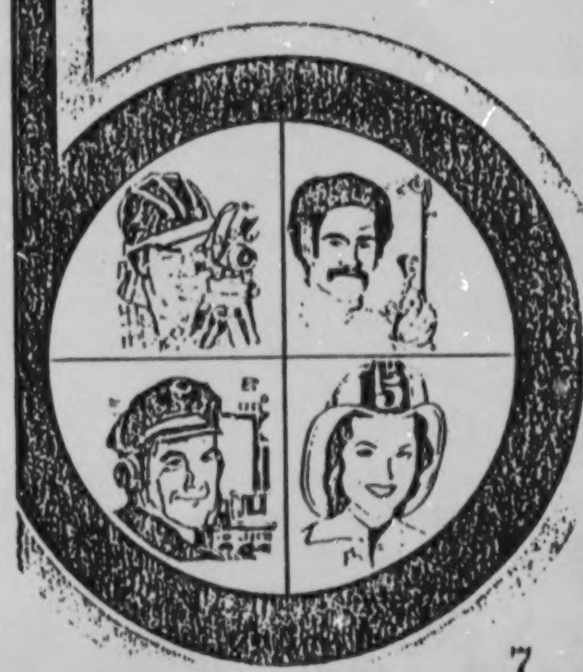

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MEDICAL SERVICE SPECIALIST, BLOCKS III, V, VI

Classroom Course

10-11

Developed by:

United States Air Force

Development and Review Dates

July 11, 1975

D.O.T. No.:
079.368

Occupational Area:
Health

Target Audiences:
Grades 13-adult

Print Pages:
594

Cost:

Availability:
Military Curriculum Project, The Center for Vocational Education, 1960 Kenny Rd., Columbus, OH 43210

Contents:	Type of Materials:						Instructional Design:				Type of Instruction:	
	Lesson Plans:	Programmed Text:	Student Workbooks:	Handouts:	Text Materials:	Audio-Visuals:	Performance Objectives:	Tests:	Review Exercises:	Additional Materials Required:	Group Instruction:	Individualized:
			No. of pages									
Block III – *Specialized Nursing Care I*	●		171		●	*	●	*	●	*	●	
Block V – *Specialized Nursing Care II*	●	●	180	●	●	*	●	*	●	*	●	
Block VI – *Specialized Nursing Care III*	●		167		●	*	●	*	●	*	●	

* Materials are recommended but not provided.

Expires July 1, 1978

Course Description

This is the second of a two-course series for medical service specialist. The course includes training in the basic theory and skills for providing nursing care and the treatment of patients in medical wards, dispensaries, and clinics. Emphasized are nursing technologies, interpersonal relationships, communication and identification of human needs. The information and training is designed for students at the apprentice (semi-skilled) level. This section consists of three blocks of instruction covering 89 hours. Block IV was deleted because it covers a clinical practicum and contains no printed material.

Block III — *Specialized Nursing Care I* contains eight lessons covering 34.5 hours of instruction. The final lesson was deleted because it discussed hospital procedures in preparation for the hospital practicum in Block IV.

The Patient with Respiratory Disorders (6 hours)
Cardiopulmonary Resuscitation (4 hours)
The Patient with Endocrine Disorders (4 hours)
Terminal Illness and Postmortem Care (2 hours)
Nursing Care Planning (4 hours)
Outpatient and Emergency Services (2 hours)
Emergency Care I (4 hours)
The Patient with Orthopedic Disorders (6.5 hours)

Block V — *Specialized Nursing Care II* contains seven lessons covering 30 hours of instruction.

Medical Terminology II (2 hours)
The Patient with Neurological Disorders (4 hours)
The Obstetrical Patient and the Newborn (4 hours)
The Pediatric Patient (2 hours)
The Patient with Urological Disorders (5 hours)
Preparation of Patients for Aeromedical Evacuation (1 hour)
Administration of Medications (12 hours)

Block VI — *Specialized Nursing Care III* contains seven lessons covering 24.5 hours of instruction.

The Patient with Mental Health Disorders (4 hours)
The Patient with Circulatory Disorders (6 hours)
The Patient with Maxillofacial or EENT Disorders (3 hours)
Emergency Care II (2 hours)
The Patient with Skin Disorders (2 hours)
The Patient with Gastrointestinal Disorders (5 hours)
The Geriatric and Chronically Ill Patient (2.5 hours)

This half of the course contains both teacher and student materials. Printed Instructor materials include a course chart and a plan of instruction detailing the units of instruction, criterion objectives, the duration of the lessons, and the support materials needed.

Student materials for Block III include seven study guide/workbooks with objectives, information, exercises and a handout covering procedures for clinical nursing experience. Block V student materials consists of six study guide/workbooks, a handout of case studies and a programmed text on the metric system. Block VI student materials include seven study guide/workbooks.

Several military manuals and commercially produced texts are referenced, but are not provided. Audiovisuals suggested for use with the entire course include 19 films, 2 slide sets, and 19 transparency sets. The entire course gives a comprehensive view of the medical services field. Some of the documents can be used for sub-units, remedial, or individualized study. The entire course can be used in a group instructional setting or adapted for individualized study.

10-11

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PLAN OF INSTRUCTION	COURSE TITLE Medical Service Specialist
BLOCK TITLE Specialized Nursing Care I	

UNITS OF INSTRUCTION AND CRITERION OBJECTIVES 1	DURATION (HOURS) 2	SUPPORT MATERIALS AND GUIDANCE 3
1. The Patient with Respiratory Disorders	6	

1. The Patient with Respiratory Disorders

a. Select pulmonary terms and principles about the anatomy and physiology of a patient with a respiratory disorder.

b. Select the basic patient needs and nursing care approaches for a patient with a respiratory disorder.

c. Select basic facts and principles related to respiratory diagnostic, therapeutic, and special nursing procedures.

d. Select the basic facts and principles related to the use of oxygen therapy equipment used in the nursing care of patients with respiratory disorders.

Column 1 Reference	STS Reference
1a	9b(17)(a), 9b(17)(b)
1b	9b(17)(c), 9b(17)(d)1a, 9b(17)(d)1b, 9b(17)(d)1c , 9b(17)(d)1d, 9b(17)(d)2,
1c	9b(17)(e)1, 9b(17)(e)2, 9b(17)(e)3, 9b(17)(e)4, 9b(17)(e)5,
1d	4a, 4b, 9a(12)(a)1, 9a(12)(a)2, 9a(12)(a)3, 9a(12)(b), 9a(12)(d), 9a(12)(f), 9a(12)(1)1, 9a(12)(1)2, 9a(12)(1)3, 9a(12)(1)4

Instructional Materials
SW 3ABR90230-III-1, The Patient with Respiratory Disorders

Audio Visual Aids
Film, TFI-8199, Oxygen Therapy--Theory and Procedures (28 min)
Film, TF-6103, Operating the Bird Respirator (IPPB) (30 min)
Filmstrip, FS-25, Tracheostomy Care (30 min)
Transparencies, Respiratory Set

Training Equipment
Oxygen Cylinders(12)
Oxygen therapy tray (28)
Oxygen regulators (12)
Manikin trainers with tracheostomy (28)
Bird Respirators (28)
Naso-pharyngeal suction machines (28)
Tracheostomy care trays (28)
Simulated Patient Unit (8)

Training Methods
Discussion (5 hrs)
Demonstration (1 hr)

PLAN OF INSTRUCTION NO. 3ABR90230	DATE 11 JUL 1975	BLOCK NO. III	PAGE NO. 18

PLAN OF INSTRUCTION (Continued)

1 UNITS OF INSTRUCTION AND CRITERION OBJECTIVES	2 DURATION (HOURS)	3 SUPPORT MATERIALS AND GUIDANCE

Instructional Environment/Design
Classroom (5 hrs)
Laboratory (1 hr)
Group/Lock Step

Instructional Guidance
Discuss subject matter with stress on basic patient needs and nursing care approaches. Discussion of procedures includes closed chest drainage, thoracentesis and postural drainage. Class is split into three groups for demonstration of oxygen masks, catheter, cannula, IPPB apparatus, mechanical suction equipment, and tracheostomy equipment.

2. Cardiopulmonary Resuscitation — 4

a. Select the basic facts and principles related to the emergency care of patients with a cardiopulmonary disorder.

b. Working as a member of a two man team, correctly perform cardiopulmonary resuscitation procedures on a simulated patient. Sixty-five percent of the items on checklist 3ABR90230-III-2b must be accomplished.

Column 1 Reference	STS Reference
2a	9a(12)(g), 9b(3)(a), 9b(3)(b), 9b(3)(c), 9b(3)(d)1a, 9b(17)(a), 9b(17)(b), 9b(17)(c), 9b(17)(d)1a,
2b	5a, 5b, 5c, 9a(12)(g)

Instructional Materials
SW 3ABR90230-III-2, Cardiopulmonary Resuscitation

Audio Visual Aids
Film, SFP 1322, Pulse of Life (29 min)

Training Equipment
Training aid, resuscitation, female, TAMMI (2)
Simulated Patient Unit (2)

Training Methods
Discussion (1.5 hrs)
Demonstration/Performance (2.5 hrs)

Instructional Environment/Design
Classroom (1.5 hrs)
Laboratory (2.5 hrs)
Group/Lock Step

PLAN OF INSTRUCTION (Continued)

UNITS OF INSTRUCTION AND CRITERION OBJECTIVES 1	DURATION (HOURS) 2	SUPPORT MATERIALS AND GUIDANCE 3
		Instructional Guidance Discuss subject matter followed by laboratory performance. Instructor/student ratio 1:8. Following a demonstration of cardiopulmonary procedures, student work as a two man team to perform this two part procedure. Each student must perform both parts of the procedure. Appropriate general housekeeping procedures will be performed including cleaning of equipment used in laboratory practice.
3. The Patient with Endocrine Disorders a. Select metabolic terms and principles about the anatomy and physiology of a patient with endocrine disorders. b. Select basic patient needs and nursing care approaches for a patient with endocrine disorders. c. Using appropriate safety precautions correctly perform sugar and acetone urine tests as described in SW 3ABR90230-III-3. Sixty-five percent of the items on checklist 3ABR90230-III-3c must be accomplished.	4	**Column 1 Reference** / **STS Reference** 3a — 9b(8)(a), 9b(8)(b), 3b — 9b(8)(c), 9b(8)(d)1a, 9b(8)(d)1b, 9b(8)(d)1c, 9b(8)(d)1d, 9b(8)(d)2 3c — 4a, 4b, 5a, 5b, 5c, 9b(8)(d)3 **Instructional Materials** SW 3ABR90230-III-3, The Patient with Endocrine Disorders **Audio Visual Aids** Transparencies, Endocrine System Set **Training Equipment** Diabetic Urine Testing Equipment (1) Urine Specimen Cups (1) **Training Methods** Discussion (3 hrs) Demonstration/Performance (1 hr) **Instructional Environment/Design** Classroom (3 hrs) Laboratory (1 hr) Group/Lock Step **Instructional Guidance** Discuss subject matter with stress on basic patient needs and nursing care approaches. Instructor/student ratio 1:8. Following demonstration, students individually perform urine tests for sugar and acetone.

PLAN OF INSTRUCTION NO.	DATE	BLOCK NO.	PAGE NO.
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PLAN OF INSTRUCTION (Continued)

1 UNITS OF INSTRUCTION AND CRITERION OBJECTIVES	2 DURATION (HOURS)	3 SUPPORT MATERIALS AND GUIDANCE
4. Terminal Illness and Postmortem Care a. Select the basic patient needs and nursing care approaches for the terminally ill patient. b. Select the administrative processes related to the terminally ill and postmortem patient. c. Select the basic principles related to postmortem care.	2	Column 1 Reference — STS Reference 4a — 9b(18)(b)1a, 9b(18)(b)1b, 9b(18)(b)1c, 9b(18)(b)1d 4b — 9a(14), 9b(18)a 4c — 9a(14) Instructional Materials SW 3ABR90230-III-4, Terminal Illness and Post-Mortem Care Training Methods Discussion (2 hrs) Instructional Environment/Design Classroom (2 hrs) Group/Lock Step Instructional Guidance Discuss subject matter with stress on basic patient needs and nursing care approaches for the terminally ill patient.
5. Nursing Care Planning a. Select the basic terms and principles related to nursing care planning. b. Given a case study and with instructor guidance, identify and record a minimum of six basic patient needs and nursing approaches.	4	Column 1 Reference — STS Reference 5a — 9a(2), 9b(8)(d)1a, 9b(8)(d)1b, 9b(8)(d)1c 5b — 9b(8)(d)1a, 9b(8)(d)1b, 9b(8)(d)1c, 9b(8)(d)1d Instructional Materials SW 3ABR90230-III-5, Nursing Care Planning Audio Visual Aids Film, FLC 13-179, Mrs. Reynolds Needs a Nurse (38 min) Transparencies, Nursing Care Planning Set Training Methods Discussion (3 hrs) Performance (1 hr)

PLAN OF INSTRUCTION (Continued)

1 UNITS OF INSTRUCTION AND CRITERION OBJECTIVES	2 DURATION (HOURS)	3 SUPPORT MATERIALS AND GUIDANCE
		Instructional Environment/Design Classroom (3 hrs) Laboratory (1 hr) Group/Lock Step Instructional Guidance Discuss the role of the Medical Service Specialist in nursing care planning including nursing care plans and team conferences. During the laboratory hour, students are divided into groups with an instructor as a team leader. Students must identify and record patient needs and nursing approaches in six different areas using a case study. Instructor student ratio 1:8.
6. Outpatient and Emergency Services a. Select facts and principles related to the role of the Medical Service Specialist in USAF Clinics. b. Select facts and principles related to the role of the Medical Service Specialist in emergency treatment of patients.	2	Column 1 Reference: 6a — STS Reference: 8c(1), 10b(1), 10b(2) Column 1 Reference: 6b — STS Reference: 9a(12)(h), 10c(1), 10c(6), 10c(7), 10c(9)(b), 10c(9)(d) Instructional Materials SW 3ABR90230-III-6, Outpatient and Emergency Services Training Methods Discussion (2 hrs) Instructional Environment/Design Classroom (2 hrs) Group/Lock Step Instructional Guidance Discuss the role of the MSS in the general practice and specialty areas of the clinic and the emergency room. Explain the role of the MSS in the operation of ambulances.
7. Emergency Care I a. Select the basic facts and principles related to the emergency treatment of hemorrhaging patients in a USAF Hospital or Clinic.	4	Column 1 Reference: 7a — STS Reference: 10c(1) Column 1 Reference: 7b — STS Reference: 10c(6) Column 1 Reference: 7c — STS Reference: 10c(7) Column 1 Reference: 7d — STS Reference: 10c(1), 10c(6), 10c(7)

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PLAN OF INSTRUCTION (Continued)

UNITS OF INSTRUCTION AND CRITERION OBJECTIVES 1	DURATION (HOURS) 2	SUPPORT MATERIALS AND GUIDANCE 3
b. Select the basic facts and principles related to the emergency treatment of a patient in shock in a USAF Hospital or Clinic. c. Select the basic facts and principles related to the emergency treatment of wounds in a USAF Hospital or Clinic. d. Given instructor guidance and the necessary equipment perform emergency treatments for a simulated patient. Sixty-five percent of the items on checklist 3ABR90230-III-7d must be accomplished.		Instructional Materials SW 3ABR90230-III-7, Emergency Care I Training Equipment Moulage (3) N/S Bottles (3) Irrigation Set (3) Kerlix (2) Cravats (1) Training Methods Discussion (2 hrs) Demonstration/Performance (2 hrs) Instructional Environment/Design Classroom (2 hrs) Laboratory (2 hrs) Group/Lock Step Instructional Guidance Discuss emergency care of patients with hemorrhage, shock, and wounds. In the laboratory students work in pairs alternating roles as patient and medical specialist. Following demonstration, students accomplish emergency procedures for a patient experiencing hemorrhage, shock, and wounds requiring bandages.
8. The Patient with Orthopedic Disorders a. Select orthopedic terms and principles about the anatomy and physiology of an orthopedic patient. b. Select the basic patient needs and nursing care approaches for a patient with orthopedic disorders.	5.5	Column 1 Reference — STS Reference 8a — 9b(4)(a), 9b(4)(b) 8b — 9b(4)(c), 9b(4)(d)1a, 9b(4)(d)1b, 9b(4)(d)1c, 9b(4)(d)1d, 9b(4)(d)2 8c — 9b(4)(e)1, 9b(4)(e)2 8d — 9b(4)(e)3

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PLAN OF INSTRUCTION (Continued)

UNITS OF INSTRUCTION AND CRITERION OBJECTIVES 1	DURATION (HOURS) 2	SUPPORT MATERIALS AND GUIDANCE 3
c. Given the proper traction equipment and instructor guidance apply traction devices to a simulated patient (peer). Sixty-five percent of the items on checklist 3ABR90230-III-8c must be accomplished. d. With instructor guidance correctly instruct a simulated patient (peer) in techniques of crutch walking. Sixty-five percent of the items on checklist 3ABR90230-III-8d must be accomplished.		Instructional Materials SW 3ABR90230-III-8, The Patient with Orthopedic Disorders Audio Visual Aids Filmstrip. FS-5, Care of the Patient in a Cast (30 min) Filmstrip. FS-7, Care of the Patient in Traction (30 min) Transparencies, Orthopedic Set Training Equipment Traction device equipment (3) Crutches (2) Simulated Patient Unit (2) Training Methods Discussion (3 hrs) Demonstration/Performance (2.5 hrs) Instructional Environment/Design Classroom (3 hrs) Laboratory (2.5 hrs) Group/Lock Step Instructional Guidance Discuss subject matter with stress on basic patient needs and nursing care approaches for the orthopedic patient. Laboratory instructor/student ratio 1:6. A two part laboratory is set up. Following demonstration students work in pairs alternating roles as specialist and patient to accomplish procedures of measuring for crutches and crutch walking techniques on flat surface and on stairs. For the application of cervical and pelvic traction, each student will perform these two procedures.

PLAN OF INSTRUCTION NO. 3ABR90230	DATE 11 JUL 1975	BLOCK NO. III	PAGE NO. 24

PLAN OF INSTRUCTION (Continued)

UNITS OF INSTRUCTION AND CRITERION OBJECTIVES 1	DURATION (HOURS) 2	SUPPORT MATERIALS AND GUIDANCE 3
9. **Hospital Briefing**		**Instructional Materials** HO 3ABR90230-IV-1, Clinical Nursing Experience
a. Orientation to hospital clinical experience.	.5	**Training Methods** Discussion (.5 hrs) **Instructional Environment/Design** Classroom (.5 hr) Group/Lock Step **Instructional Guidance** Discuss assignments, duty hours, uniform equipment and requirements of clinical experience.
10. **Related Training** (identified in course chart)	12	
11. **Measurement Test and Test Critique**	2	
a. Measurement Test		
b. Test Critique		

PLAN OF INSTRUCTION NO. 3ABR90230	DATE 11 JUL 1975	BLOCK NO. III	PAGE NO. 25

PLAN OF INSTRUCTION	COURSE TITLE Medical Service Specialist
BLOCK TITLE Participation in USAF Hospital Patient Care	

NOTE: Participation under instructor supervision, at USAF Regional Hospital, Sheppard AFB, Texas in patient care to the extent that tasks related to objectives achieved within previous blocks of the course may be accomplished in the hospital environment. Specific paragraphs of the training standard cannot be identified (or defined) by specific units of instruction due to variations in the availability of operational activities within the hospital. Student participation is limited to those tasks directly associated with criterion objectives covered within the course and previously underlined regarding STS references. Criterion objectives IV-1c through IV-1g are exceptions. Final progress checks will be accomplished on these items. Satisfactory achievement of patient care participation is determined by instructor staff.

UNITS OF INSTRUCTION AND CRITERION OBJECTIVES 1	DURATION (HOURS) 2
1. Clinical Nursing Experience	28 (24/4)
a. In the hospital setting, each student will assist in identifying patient needs and nursing approaches in accordance with the principles of total patient care.	(12)
b. In the hospital setting, each student will perform selected nursing care procedures as assigned by the clinical instructor.	(6)
c. In the hospital setting and under instructor supervision correctly serve a food tray to a ward patient. Sixty-five percent of the items on checklist 3ABR90230-IV-1c must be accomplished.	(.5)
d. In the hospital setting and under instructor supervision correctly and safely lift or move a patient. Sixty-five percent of the items on checklist 3ABR90230-IV-1d must be accomplished.	(1.5)
e. In the hospital setting and under instructor supervision accurately measure and record the temperature, pulse respiration, and	

SUPPORT MATERIALS AND GUIDANCE 3

Column 1 Reference	STS Reference
1c	5a, 5b, 5c, 9a(9)(b)
1d	5a, 5b, 5c, 9a(5)(f), 9a(5)(g)
1e	5a, 5b, 5c, 9a(3)
1f	5a, 5b, 5c, 9a(5)(b), 9a(5)(c), 9a(5)(d), 9a(5)(e)
1g	4b, 5a, 5b, 5c, 9a(5)(a), 9a(8)(b)1, 9a(8)(b)2, 9a(8)(b)3

Instructional Materials
HO 3ABR90230-IV-1, Clinical Nursing Experience
SW 3ABR90230-I-7
SW 3ABR90230-I-10
SW 3ABR90230-II-3
SW 3ABR90230-II-2

Training Equipment
USAF Regional Hospital, Sheppard AFB, Texas (28)

Training Methods
Performance (24 hrs)
Outside Assignments (4 hrs)

Instructional Environment/Design
Laboratory (24 hrs)
Home Study (4 hrs)
Group/Lock Step

PLAN OF INSTRUCTION (Continued)

UNITS OF INSTRUCTION AND CRITERION OBJECTIVES 1	DURATION (HOURS) 2	SUPPORT MATERIALS AND GUIDANCE 3
blood pressure of a patient. Sixty-five of the items on checklist 3ABR90230-IV-1e must be acccomplished.	(1.5)	Instructional Guidance Student will be divided into groups and assigned to various clinical areas such as medical ward, surgical ward, and clinics. Instructors will make out daily assignments, assist with care approaches, supervise all student activities and evaluate student performance. Individual responsibility for completion of assignments and thorough reporting before going off duty will be stressed. Students may be rotated to various units to ensure opportunities to accomplish progress checks. Team conferences will be held. During the final hours the instructors will discuss with the students their overall experiences as recorded on the "Student-Instructor Written Communication" in HO 3ABR90230-IV-1. NOTE: Ensure safety precautions are followed.
f. In the hospital setting and under instructor supervision, provide appropriate morning or afternoon comfort and hygiene measures for a bed patient. Sixty-five percent of the items on checklist 3ABR90230-IV-1f must be accomplished	(2)	
g. In the hospital setting and under instructor supervision make an unoccupied hospital bed. Sixty-five percent of the items on checklist 3ABR90230-IV-1g must be accomplished.	(.5)	
2. Related Training (identified in course chart)	4	

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PLAN OF INSTRUCTION	COURSE TITLE Medical Service Specialist
BLOCK TITLE Specialized Nursing Care II	

UNITS OF INSTRUCTION AND CRITERION OBJECTIVES 1	DURATION (HOURS) 2	SUPPORT MATERIALS AND GUIDANCE 3
1. Medical Terminology II a. Define selected medical terms.	2	Column 1 Reference: 1a STS Reference: 9a(1), 9a(13)(e), 9b(1)(a), 9b(2)(a), 9b(3)(a), 9b(5)(a), 9b(6)(a), 9b(7)(a), 9b(9)(a), 9b(10)(a), 9b(11)(a), 9b(12)(a), 9b(14)(a), 9b(15)(a), 9b(19)(a) Instructional Materials PT 3ABR90230-I-5, Medical Terminology, Vol 1, 2, 3, 4 Training Methods Discussion (1 hr) Performance (1 hr) Instructional Environment/Design Classroom (1 hr) Laboratory (1 hr) Group/Lock Step Instructional Guidance Present and discuss terminology. Identify terminology through the use of a case study.
2. The Patient with Neurological Disorders a. Select neurological terms and principles about the anatomy and physiology of a neurological patient. b. Select basic patient needs and nursing care approaches for a patient with neurological disorders.	6 (4/2)	Column 1 Reference / STS Reference 2a: 9b(7)(a), 9b(7)(b) 2b: 9b(7)(c), 9b(7)(d)1a, 9b(7)(d)ib, 9b(7)(d)1c, 9b(7)(d)1d, 9b(7)(d)2, 9b(18)(b)2 2c: 9b(7)(e)1, 9b(7)(e)2 Instructional Materials SW 3ABR90230-V-2, The Patient with Neurological Disorders

PLAN OF INSTRUCTION (Continued)

1 UNITS OF INSTRUCTION AND CRITERION OBJECTIVES	2 DURATION (HOURS)	3 SUPPORT MATERIALS AND GUIDANCE
c. Select basic facts and principles related to neurological diagnostic, therapeutic and special nursing procedures.		**Audio Visual Aids** Filmstrip, Use of Turning Frames (24 min) Transparencies, Neurological Set **Training Equipment** Spinal Manometer (28) **Training Methods** Discussion (4 hrs) Outside Assignments (2 hrs) **Instructional Environment/Design** Classroom (4 hrs) Home Study (2 hrs) Group/Lock Step **Instructional Guidance** Discuss subject matter stressing nursing needs and approaches. Include discussion of the unconscious patient.
3. The Obstetrical Patient and the Newborn a. Select the basic facts and principles about the anatomy and physiology of the obstetrical and newborn patient. b. Select the basic patient needs and nursing care approaches for an obstetrical patient. c. Select the basic facts and principles related to emergency delivery procedures. d. Select the basic patient needs and nursing care approaches for a newborn patient.	6 (4/2)	**Column 1 Reference** — **STS Reference** 3a — 9b(15)(a), 9b(15)(b) 3b — 9b(15)(c), 9b(15)(d), 9b(15)(e)1a, 9b(15)(e)1b, 9b(15)(e)1c, 9b(15)(e)1d, 9b(15)(e)2, 3c — 10c(5) 3d — 9b(15)(f)1, 9b(15)(f)2, 9b(15)(f)3 **Instructional Materials** SW 3ABR90230-V-3, The Obstetrical Patient and the Newborn **Audio Visual Aids** Film, FLC 2-146, Birthday Thru Eyes of Mother (30 min) Transparencies, Obstetrical Set

PLAN OF INSTRUCTION (Continued)

UNITS OF INSTRUCTION AND CRITERION OBJECTIVES 1	DURATION (HOURS) 2	SUPPORT MATERIALS AND GUIDANCE 3
		Training Methods Discussion (4 hrs) Outside Assignments (2 hrs) Instructional Environment/Design Classroom (4 hrs) Home Study (2 hrs) Group/Lock Step Instructional Guidance Discuss subject matter with stress on nursing needs and approaches.
4. The Pediatric Patient a. Select terms and basic principles related to the growth and development of children. b. Select the basic patient needs and nursing care approaches for the pediatric patient.	2	Column 1 Reference STS Reference 4a 9b(10)(a), 9b(10)(b) 4b 9b(10)(c), 9b(10)(d)1a, 9b(10)(d)1b, 9b(10)(d)1c, 9b(10)(d)1d, 9b(10)(d)2 Instructional Materials SW 3ABR90230-V-4, The Pediatric Patient Training Equipment Pediatric Chase Doll with Clothing (28) Training Methods Discussion (2 hrs) Instructional Environment/Design Classroom (2 hrs) Group/Lock Step Instructional Guidance Discuss subject matter with stress on nursing needs and approaches.

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PLAN OF INSTRUCTION (Continued)

UNITS OF INSTRUCTION AND CRITERION OBJECTIVES 1	DURATION (HOURS) 2	SUPPORT MATERIALS AND GUIDANCE 3
5. The Patient with Urological Disorders a. Select urological terms and principles about the anatomy and physiology of the urological patient. b. Select the basic patient needs and nursing care approaches for the urological patient. c. Select basic facts and principles related to urological diagnostic, therapeutic and special nursing procedures.	7 (5/2)	Column 1 Reference — STS Reference 5a — 9b(5)(a), 9b(5)(b) 5b — 9b(5)(c), 9b(5)(d)1a, 9b(5)(d)1b, 9b(5)(d)1c, 9b(5)(d)1d, 9b(5)(d)2 5c — 9b(5)(e)1, 9b(5)(e)2, 9b(5)(e)3, 9b(5)(e)4 Instructional Materials SW 3ABR90230-V-5, The Patient with Urological Disorders Audio Visual Aids Transparencies, Urological Set Filmstrip, Female Foley Catheterization and Bladder Irrigation (23 min) Filmstrip, Male Regular Urethral Catheterization. Bladder Instillation and the Clean Voided or Mid-Stream Catch Urine Specimen (23 min) Training Equipment Catheterization Set (14) Catheterization Irrigation Set (28) Female Manikin (14) Male Manikin (14) Training Methods Discussion (4 hrs) Demonstration (1 hr) Outside Assignments (2 hrs) Instructional Environment/Design Classroom (4 hrs) Laboratory (1 hr) Home Study (2 hrs) Group/Lock Step Instructional Guidance Discuss subject matter with stress on nursing needs and approaches. If audio visual aids are not available, demonstrate male and female catheterization procedures with stress on sterile technique and patient safety.

PLAN OF INSTRUCTION (Continued)

1 UNITS OF INSTRUCTION AND CRITERION OBJECTIVES	2 DURATION (HOURS)	3 SUPPORT MATERIALS AND GUIDANCE
6. Preparation of Patients for Aeromedical Evacuation a. Select terms, administrative procedures and patient classifications related to aeromedical evacuation. b. Select the basic patient needs and nursing approaches related to the preparation of patients for aeromedical evacuation.	1	Column 1 Reference — STS Reference 6a — 9b(20)(a), 9b(20)(b), 9b(20)(c) 6b — 9b(20)(d)1a, 9b(20)(d)1b, 9b(20)(d)1c, 9b(20)(d)1d, 9b(20)(d)2 Instructional Materials SW 3ABR90230-V-6, Preparation of Patients for Aeromedical Evacuation Audio Visual Aids Transparencies, Aeromedical Evacuation Set Training Methods Discussion (1 hr) Instructional Environment/Design Classroom (1 hr) Group/Lock Step Instructional Guidance Discuss subject matter with stress on patient approaches and needs.
7. Administration of Medications	16 (12/4)	Column 1 Reference — STS Reference
		7a — 9a(13)(a)
a. Select basic principles of the metric system.	(1)	7b — 9a(13)(d)1, 9a(13)(d)2, 9a(13)(d)3, 9a(13)(d)4, 9a(13)(d)5, 9a(13)(d)6, 9a(13)(d)7, 9a(13)(d)8
b. Select basic facts and principles related to pharmacology.	(1)	7c — 9a(13)(f)2a, 9a(13)(f)2d(1), 9a(13)(f)2d(2), 9a(13)(f)2d(3), 9a(13)(f)2d(4), 9a(13)(f)2d(5)
c. Select basic facts and principles related to immunizations.	(1)	7d — 9a(11)(c)1a, 9a(11)(c)1b, 9a(11)(c)1c, 9a(11)(c)2,
d. Select procedures and reportable observations related to blood transfusions.	(1)	7e — 9a(13)(b) , 9a(13)(c), 9a(13)(f)3, 9a(13)(f)4
e. Select basic facts and procedures related to giving medications.	(2)	

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PLAN OF INSTRUCTION (Continued)

1 UNITS OF INSTRUCTION AND CRITERION OBJECTIVES	2 DURATION (HOURS)	3 SUPPORT MATERIALS AND GUIDANCE
f. Under supervision and given a parenteral medication order accurately prepare and give a medication to a fellow student. Sixty-five percent of the items on checklist 3ABR90230-V-7f must be accomplished.	(4)	**Column 1 Reference** — **STS Reference (Cont'd)** 7f — 9a(13)(a), 9a(13)(e), 9a(13)(f)1, 9a(13)(f)2b, 9a(13)(f)2c; 7g — 9a(13)(g)1, 9a(13)(g)2 **Instructional Materials** SW 3ABR90230-V-7, Administration of Medications PT 3ABR90230-V-7, Metric System **Audio Visual Aids** Transparencies, Medication Set Filmstrip, Parenteral Drug Administration (17 min) **Training Equipment** Parenteral Medication Trays (4) Intramuscular Trainer (8) Bottle IV Solution with Infusion Set (2) Moulage with Needle Set-Up (2) Tourniquet (2) Alcohol Sponges (1) Band-Aid (1) IV Pole (2) Emesis Basin (2) IV Armboards, Roller Gauze and Adhesive Tape (2) Physician's Desk Reference (28) Medication Cabinet and Cart (28) Simulated Patient Unit (2) **Training Methods** Discussion (6 hrs) Demonstration/Performance (6 hrs) Outside Assignments (4 hrs)
g. With instructor guidance assist with infusions and recognize reportable symptoms as outlined in SW 3ABR90230-V-7. Sixty-five percent of the items on checklist 3ABR90230-V-7g must be accomplished.	(2)	

PLAN OF INSTRUCTION (Continued)

UNITS OF INSTRUCTION AND CRITERION OBJECTIVES	2 DURATION (HOURS)	3 SUPPORT MATERIALS AND GUIDANCE
		Instructional Environment/Design Classroom (6 hrs) Laboratory (6 hrs) Home Study (4 hrs) Group/Lock Step Instructional Guidance Present the metric system via programmed text. An instructor will clarify the subject and answer individual questions as needed. Present pharmacology by class discussion. Discuss oral medications followed by demonstration. Discuss parenteral medications followed by demonstration and laboratory practice. Students will practice and then administer a subcutaneous injection of .5cc normal saline to a fellow student. Intramuscular trainers will be used for intramuscular injections. Stress surgical aseptic technique and patient identification. General housekeeping procedures in the medications rooms and proper safety procedures for needles and syringes will be accomplished. Present immunizations and skin testing by discussion. Present intravenous therapy by discussion followed by demonstration and laboratory practice assisting with infusions. NOTE: Ensure safety precautions are followed.
8. Measurement Test and Test Critique a. Measurement test b. Test critique	2	

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PLAN OF INSTRUCTION	COURSE TITLE Medical Service Specialist

BLOCK TITLE

Specialized Nursing Care III

UNITS OF INSTRUCTION AND CRITERION OBJECTIVES 1	DURATION (HOURS) 2	SUPPORT MATERIALS AND GUIDANCE 3
1. The Patient with Mental Health Disorders a. Select terms and principles related to the psychiatric patient. b. Select basic patient needs and nursing care approaches for the mental health patient. c. Given appropriate equipment and instructor guidance correctly apply restraining devices to a simulated patient (peer). Sixty-five percent of the items on checklist 3ABR90230-VI-1c must be accomplished.	6 (4/2)	Column 1 Reference — STS Reference 1a — 9b(12)(a), 9b(12)(b) 1b — 9b(12)(c), 9b(12)(d)1a, 9b(12)(d)1b, 9b(12)(d)1c, 9b(12)(d)1d, 9b(12)(d)2 1c — 9b(12)(d)3 Instructional Materials WB 3ABR90230-VI-1, The Patient with Mental Health Disorders Training Equipment Cuff Restraints (2) Restraint Key (2) Clovehitch (2) Poseybelt (2) Padding (2) Simulated Patient Unit (2) Training Methods Discussion (2 hrs) Demonstration/Performance (2 hrs) Outside Assignments (2 hrs) Instructional Environment/Design Classroom (2 hrs) Laboratory (2 hrs) Home Study (2 hrs) Group/Lock Step Instructional Guidance Discuss subject matter stressing patient needs and approaches. Following demonstration of restraints, divide class into three groups to allow students to apply three types of restraints.

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PLAN OF INSTRUCTION (Continued)

1 UNITS OF INSTRUCTION AND CRITERION OBJECTIVES

2. The Patient with Circulatory Disorders

a. Select terms and principles about the anatomy and physiology of the patient with circulatory disorders.

b. Select basic patient needs and nursing care approaches for the patient with circulatory disorders.

c. Select basic facts and principles related to circulatory disorders, diagnostic therapeutic and special nursing procedures.

d. Given the necessary equipment and instructor guidance, accurately measure and record the apical-radial pulse of a simulated patient (peer) to within a + or - 4 point variance of the instructor's reading of the same patient.

2 DURATION (HOURS)

8
(6/2)

3 SUPPORT MATERIALS AND GUIDANCE

Column 1 Reference	STS Reference
2a	9b(3)(a), 9b(3)(b)
2b	9b(3)(c), 9b(3)(d)1a, 9b(3)(d)1b, 9b(3)(d)1c, 9b(3)(d)1d, 9b(3)(d)2
2c	9b(3)(e)2
2d	9b(3)(e)1

Instructional Materials
SW 3ABR90230-VI-2, The Patient with Circulatory Disorders

Audio Visual Aids
Transparencies, Circulatory System Set

Training Equipment
Electrocardiograph Machine (28)
Stethoscope (3)

Training Methods
Discussion (5 hrs)
Demonstration/Performance (1 hr)
Outside Assignments (2 hrs)

Instructional Environment/Design
Classroom (5 hrs)
Laboratory (1 hr)
Home Study (2 hrs)
Group/Lock Step

Instructional Guidance
Discuss subject matter stressing patient needs and approaches. Include cardiovascular, lymphatic, and blood disorders. Demonstrate use of the ECG machine. Demonstrate apical-radial pulse procedure followed by student performance.

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PLAN OF INSTRUCTION (Continued)

UNITS OF INSTRUCTION AND CRITERION OBJECTIVES 1	DURATION (HOURS) 2	SUPPORT MATERIALS AND GUIDANCE 3
3. The Patient with Maxillofacial or EENT Disorders a. Select terms and principles about the anatomy and physiology of the patient with maxillofacial and EENT disorders. b. Select basic patient needs and nursing care approaches for the patient with maxillofacial and EENT disorders. c. Select basic facts and principles related to maxillofacial and EENT diagnostic, therapeutic and special nursing procedures.	5 (3/2)	Column 1 Reference — STS Reference 3a — 9b(1)(a), 9b(1)(b), 9b(9)(a), 9b(9)(b) 3b — 9b(1)(c), 9b(1)(d)1a, 9b(1)(d)1b, 9b(1)(d)1c, 9b(1)(d)1d, 9b(1)(d)2, 9b(9)(c), 9b(9)(d)1a, 9b(9)(d)1b, 9b(9)(d)1c, 9b(9)(d)1d, 9b(d)2 3c — 9b(9)(e)1, 9b(9)(e)2, 9b(9)(e)3, 9b(9)(e)4 Instructional Materials SW 3ABR90230-VI-3, The Patient with Maxillofacial or EENT Disorders Audio Visual Aids Transparencies, EENT Set Training Methods Discussion (3 hrs) Outside Assignments (2 hrs) Instructional Environment/Design Classroom (3 hrs) Home Study (2 hrs) Group/Lock Step Instructional Guidance Discuss subject matter stressing nursing needs and approaches.
4. Emergency Care II a. Select the basic facts and principles related to the emergency treatment of a poisoned patient in a USAF Hospital or Clinic. b. Select the basic facts and principles related to the emergency treatment of a patient with heat stroke and heat exhaustion in a USAF Hospital or Clinic.	2	Column 1 Reference — STS Reference 4a — 10(c)(2) 4b — 10(c)(3) 4c — 10(c)(4) 4d — 10(c)(8) Instructional Materials SW 3ABR90230-VI-4, Emergency Care II

1 UNITS OF INSTRUCTION AND CRITERION OBJECTIVES	2 DURATION (HOURS)	3 SUPPORT MATERIALS AND GUIDANCE
c. Select the basic facts and principles related to the emergency treatment of a patient with cold injuries in a USAF Hospital or Clinic. d. Select the basic facts and principles related to the emergency treatment of a patient with fractures in a USAF Hospital or Clinic.		Training Methods Discussion (2 hrs) Instructional Environment/Design Classroom (2 hrs) Group/Lock Step Instructional Guidance Discuss subject matter with emphasis on total emergency care of patient with poisons, heat stroke or exhaustion, cold injuries, and fractures.
5. The Patient with Skin Disorders a. Select terms and principles about the anatomy and physiology of the patient with skin disorders. b. Select basic patient needs and nursing care approaches for the patient with skin disorders. c. Select the basic patient needs and nursing care approaches for the burned patient.	2	Column 1 Reference — STS Reference 5a — 9b(2)(a), 9b(2)(b), 9b(14)(a) 5b — 9b(2)(c), 9b(2)(d)1a, 9b(2)(d)1b, 9b(2)(d)1c, 9b(2)(d)1d , 9b(2)(d)2 5c — 9b(14)(b) , 9b(14)(c)1a, 9b(14)(c)1b, 9b(14)(c)1c, 9b(14)(c)1d, 9b(14)(c)2 Instructional Materials SW 3ABR90230-VI-5, The Patient with Skin Disorders Audio Visual Aids Transparencies, Skin Disorder Set Training Methods Discussion (2 hrs) Instructional Environment/Design Classroom (2 hrs) Group/Lock Step Instructional Guidance Discuss subject matter with stress on nursing needs and approaches.

PLAN OF INSTRUCTION (Continued)

1 UNITS OF INSTRUCTION AND CRITERION OBJECTIVES	2 DURATION (HOURS)	3 SUPPORT MATERIALS AND GUIDANCE

6. The Patient with Gastrointestinal Disorders

a. Select terms and principles about the anatomy and physiology of the patient with gastrointestinal disorders.

b. Select basic patient needs and nursing care approaches for the patient with gastrointestinal disorders.

c. Select basic facts and principles related to gastrointestinal diagnostic, therapeutic and special nursing procedures.

d. Under simulated conditions and with instructor guidance, correctly administer an enema. Sixty-five percent of the items on checklist 3ABR90230-VI-6d must be accomplished.

7
(5/2)

Column 1 Reference	STS Reference
6a	9b(6)(a), 9b(6)(b)
6b	9b(6)(c), 9b(6)(d)1a, 9b(6)(d)1b, 9b(6)(d)1c, 9b(6)(d)1d, 9b(6)(d)2
6c	9b(6)(e)1, 9b(6)(e)3, 9b(6)(e)4, 9b(6)(e)5
6d	9b(6)(e)2

Instructional Materials
SW 3ABR90230-VI-6, The Patient with Gastrointestinal Disorders

Audio Visual Aids
Transparencies, Gastrointestinal System Set
Filmstrip, Administration of Enemas (19 min)

Training Equipment
Enema Equipment (2)
Manikin (2)
Simulated Patient Unit (2)

Training Methods
Discussion (3 hrs)
Demonstration/Performance (2 hrs)
Outside Assignments (2 hrs)

Instructional Environment/Design
Classroom (3 hrs)
Laboratory (2 hrs)
Home Study (2 hrs)
Group/Lock Step

Instructional Guidance
Discuss subject matter with stress on nursing needs and approaches. Instructor student ratio 1:8. Students are divided into groups following demonstration for practice and performance. General housekeeping duties including cleaning of equipment used in laboratory practice will be accomplished. Safety precautions will be ensured.

PLAN OF INSTRUCTION (Continued)

1 UNITS OF INSTRUCTION AND CRITERION OBJECTIVES	2 DURATION (HOURS)	3 SUPPORT MATERIALS AND GUIDANCE
7. The Geriatric and Chronically Ill Patient a. Select terms and basic principles related to the aging process. b. Select terms and basic principles related to the care of the chronically ill patient. c. Select the basic patient needs and nursing care approaches for the geriatric and chronically ill patient.	2.5	Column 1 Reference — STS Reference 7a — 9b(11)(a), 9b(11)(b) 7b — 9b(19)(b) 7c — 9b(11)(c), 9b(11)(d)1a, 9b(11)(d)1b, 9b(11)(d)1c, 9b(11)(d)1d, 9b(11)(d)2, 9b(19)c), 9b(19)(d)1a, 9b(19)(d)1b, 9b(19)(d)1c, 9b(19)(d)1d, 9b(19)(d)2, 9b(19)(e) Instructional Materials SW 3ABR90230-VI-7, The Geriatric and Chronically Ill Patient Training Methods Discussion (2.5 hrs) Instructional Environment/Design Classroom (2.5 hrs) Group/Lock Step Instructional Guidance Discuss subject matter with stress on patient needs and nursing approaches.
8. Measurement Test and Test Critique a. Measurement test b. Test critique	1.5	
9. Related Training (identified in course chart)	2	
10. Course Critique and Graduation	2	

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STUDY GUIDE AND WORKBOOK 3ABR90230-III-1

DEPARTMENT OF NURSING

MEDICAL SERVICE SPECIALIST

10-11
Block III

THE PATIENT WITH RESPIRATORY DISORDERS

July 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
SHEPPARD AIR FORCE BASE, TEXAS

Designed For ATC Course Use

DO NOT USE ON THE JOB

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Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

SW 3ABR90230-III-1a
July 1975

THE PATIENT WITH RESPIRATORY DISORDERS

OBJECTIVE

Select pulmonary terms and principles about the anatomy and physiology of a patient with a respiratory disorder.

INTRODUCTION

One of man's most vital needs is an adequate and continuous supply of oxygen. The body machinery cannot run without it. This is why you have learned that above all else in life it is important to maintain an open airway. Even hemorrhage and heart beat must take a second place to an open airway and respiration.

Often we think of muscle collapse, mechanical plug or some other dramatic incident as the sole cause of the cut-off of oxygen supply. This may be true when dealing with an emergency patient but not necessarily so when dealing with the medical patient or the postoperative patient.

Your review of anatomy and physiology will enable you to see how the network of small respiratory passages is frequently the site of the problem. Infections lodge here which, if severe, can interfere with oxygen supply. Tiny air sacs can break, or become distended and crowd others, and thus leave a less functioning lung.

Respiratory disorders not only stand alone as a possible problem but frequently complicate other illnesses. "Sometimes, the patient would have recovered from his operation if it had not been for the pneumonia."

Fortunately, we in the nursing field can do much to prevent respiratory difficulties and to effectively treat long-standing respiratory disorders. This lesson will provide you with information regarding normal structure and function.

Before class review your A&P and terminology SWs in the respiratory sections, also study Chapters 4,5, and 8 in Sutton's and paragraphs 4-54 thru 4-58 in AFM 160-34.

Answer review questions found at the end of the SW only after class to prevent loosing your place during the lecture.

INFORMATION

1. To understand problems that occur with or in the respiratory system you must understand terms related to this vital system. Below are a few selected terms with which you should be familiar.

a. Respiration - taking oxygen into the body through the lungs and eliminating the waste products, carbon dioxide and water. There are two types of respiration.

(1) External respiration - the exchange of O_2 for CO_2 within the lungs.

(2) Internal respiration - the exchange of CO_2 for O_2 within the body cells.

This supersedes SW 3ABR90230-III-1, January 1975

b. Diffusion - the tendency of molecules of a substance to move from a region of high concentration to one of lower concentration.

c. Atelectasis - a collapsed or airless condition of the lung. May be partial or total.

d. Bronchitis - inflammation of the bronchial mucous membrane.

e. Pneumonia - inflammation of the lungs caused primarily by bacteria, viruses, chemical irritants, vegetable dust and allergy.

f. Apnea - cessation of breathing.

g. Hyperventilation - increased inspiration and expiration of air as a result of an increase in rate or depth of respiration, or both.

h. Hemoptysis - expectoration of blood arising from hemorrhage of the larynx, trachea, bronchi, or lungs.

i. Pneumothorax - a collection of air or gas in the pleural cavity.

j. Dyspnea - air hunger resulting in labored or difficult breathing, sometimes accompanied by pain.

k. Cyanosis - slightly bluish, grayish, slatelike or dark purple discoloration of the skin.

l. Orthopnea - discomfort in breathing in any but erect sitting or standing position.

m. Hyperpnea - an increased respiratory rate or breathing which is deeper than that usually experienced during normal activity.

2. Like terminology, a knowledge of anatomy and physiology is necessary in order to understand a disorder which may be present.

This review of the anatomy and physiology taken in a previous block deals with only the respiratory system. This review will follow the path of air from the beginning (nose) to the alveolar sacs.

You will be required to take notes in this SW from the lecture material presented.

a. The Upper respiratory System

(1) The nose -

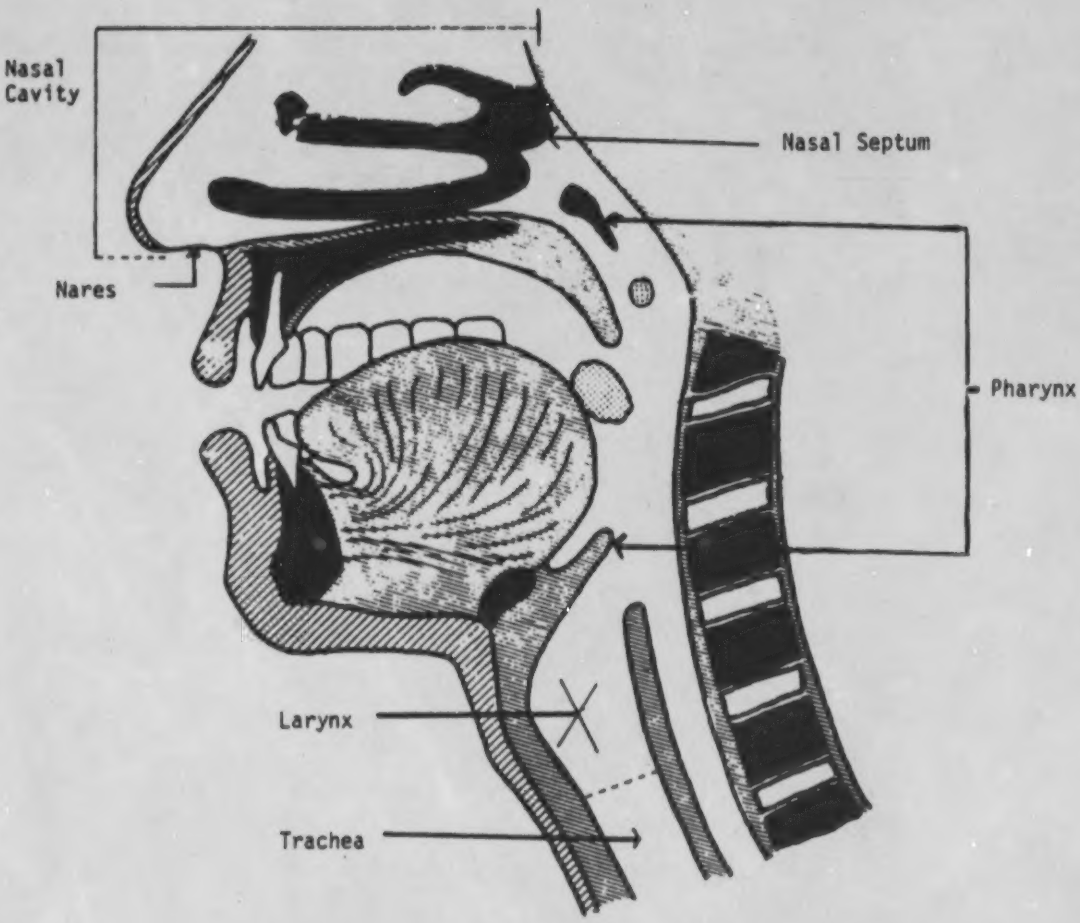
(2) Pharynx -

30

(3) Larynx -

(4) Trachea -

Upper structures of the air pathway


Nasal Cavity
Nasal Septum
Nares
Pharynx
Larynx
Trachea

THE UPPER RESPIRATORY TRACT

3

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b. The lower respiratory tract:

(1) Thorax - A cavity formed by the ribs attached anteriorly to the sternum and posteriorly to the thoracic vertebrae (8-19). The thorax protects the heart, the lungs, and the great thoracic blood vessels.

(2) Bronchi -

(3) Bronchioles -

(4) Alveoli - the termination of the broncnioles into microscopic air sacs.

(a)

(b)

(c)

(5) Lungs - two cone-shaped organs which fill the chest cavity.

(a)

32

(b)

(6) Pleurae - two smooth closed serous sacs

(a) Visceral pleura -

(b) Parietal pleura -

(c) Mediastinum -

(d) Pleural Cavity -

c. The mechanics of breathing:

(1) The lungs inflate and deflate with the contraction and relaxation of the muscles of the thorax. The intercostal muscles are primarily involved. They are stimulated by the intercostal nerves.

(2) The diaphragm is dome shaped when relaxed, and creates a vacuum within the lungs when it contracts or flattens out. When it relaxes it pushes the air from the lungs by pushing against them. The diaphragm is the largest and most important muscle involved with respiration. It is stimulated by the phrenic nerve.

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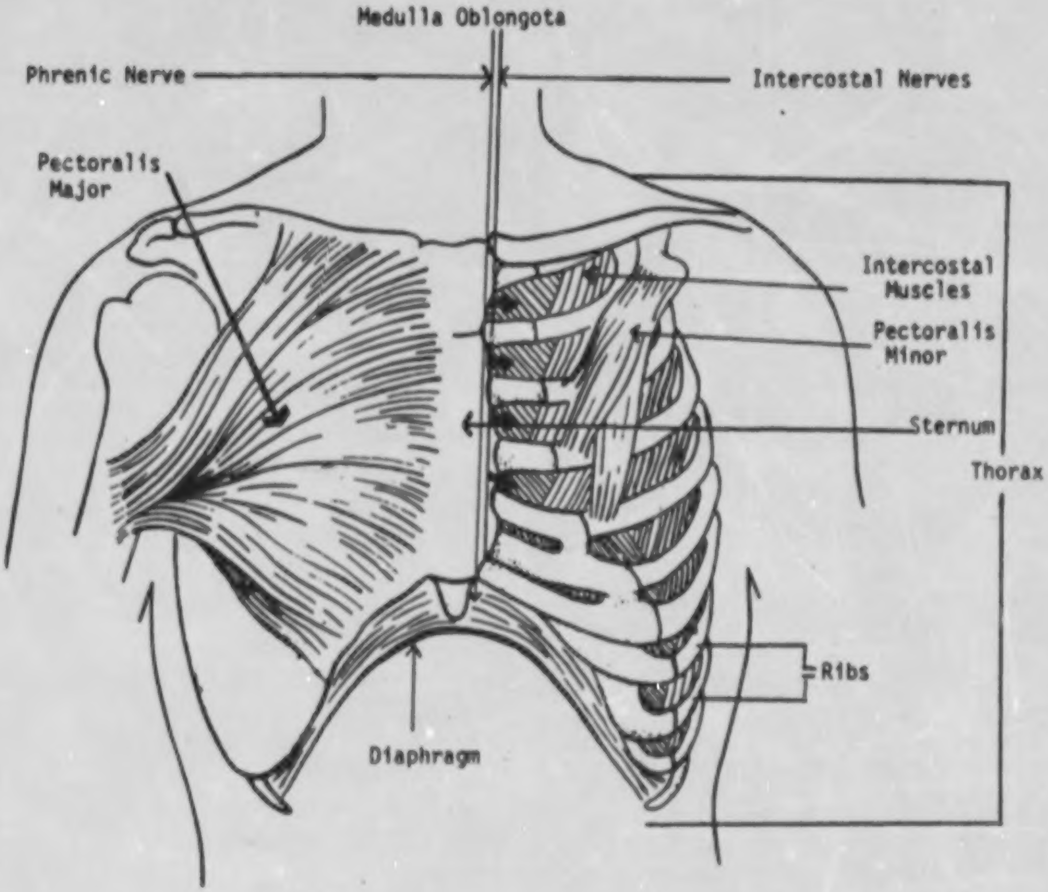
The muscles of respiration and the nerves which innervate them.


Medulla Oblongota
Phrenic Nerve
Intercostal Nerves
Pectoralis Major
Intercostal Muscles
Pectoralis Minor
Sternum
Thorax
Ribs
Diaphragm

THE THORAX; MUSCLES, NERVES, AND BONES

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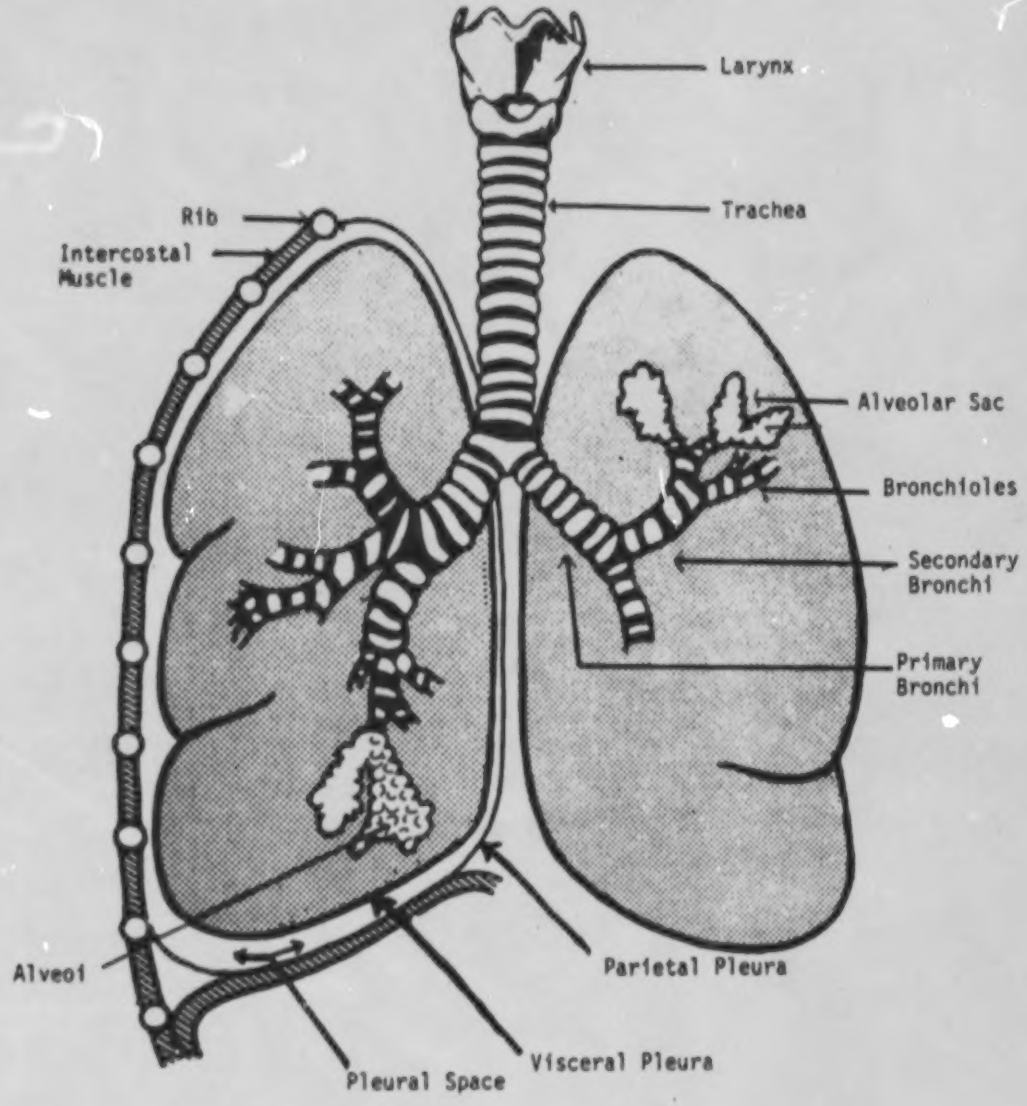
Larynx
Trachea
Rib
Intercostal Muscle
Alveolar Sac
Bronchioles
Secondary Bronchi
Primary Bronchi
Alveoi
Parietal Pleura
Visceral Pleura
Pleural Space

THE LOWER RESPIRATORY TRACT

BASIC PATIENT NEEDS AND NURSING CARE APPROACHES

OBJECTIVES

Select basic patient needs and nursing care approaches for a patient with a respiratory disorder.

INTRODUCTION

Oxygen is one of the basic needs of all living things. Without oxygen, the brain begins to die within 2 to 3 minutes and death occurs within 4 to 6 minutes.

Tissue must have a constant supply of oxygen to live, but since oxygen is not stored in the body, the body's supply of oxygen normally is obtained from the air we breath. Room air is approximately 20 percent oxygen. In some illnesses, the body is unable to take in enough oxygen or cannot use it effectively.

There are many instances when the body does not get enough oxygen because of a disorder in the respiratory system. In these disorders the decrease in oxygen may occur suddenly or gradually. For example if a person chokes on a piece of meat, the supply of air is suddenly cut off and the person will die if his airway is not restored within a matter of minutes. On the other hand, in many infectious or chronic conditions of the lungs, breathing is impaired but not stopped completely. In these instances, most of which are not emergencies the nurse (or you the corpsman) can help to maintain life by assisting the patient to breathe or to obtain oxygen.

INFORMATION

Signs and Symptoms

You must learn to recognize the signs and symptoms of respiratory complications in order to assist the patient to meet the need for oxygen.

Some of these signs and symptoms include.

1. Cough -

2. Dysphagia -

3. Dyspnea -

4. Septum (increased in expectorations or nasal areas) -

   a.

   b.

   c.

5. Hemoptysis -

6. Uneven chest movements -

7. Hyperventilation -

8. Other signs and symptoms are in the film, especially those relating directly to hypoxia. Be sure to note these.

Respiratory Disorders and Nursing Care for these Disorders.

Respiratory infections such as common colds, pneumonia, influenza, and TB.

1. Spread by -

2. Factors lowering resistance -

3. Nursing care for these patients
   a. Rest
      (1)
      (2)
      (3)

(4)

(5)

(6)

Chronic respiratory problems as hay fever, asthma, bronchitis, and emphysema.

1. Hay fever -

    a. Signs and symptoms

        (1)

        (2)

        (3)

39

b. Nursing care after the source of the allergy has been found.

(1) Instruct patient to avoid offending substances which could mean:

(a)

(b)

(c)

(2)

(3)

2. Bronchial asthma -

a. Signs and symptoms

(1)

71

(2)

(3)

(4)

(5)

b. Causes -

c. Nursing care includes;

(1) Relieving breathing difficulties

(a)

(b)

(2) In treating causative factors long-term goals are;

(a)

(b)

(c)

3. Bronchitis -

a. In acute bronchitis the treatment and nursing care is much the same as for the other infectious respiratory disorders.

b. Chronic bronchitis is much more serious and may lead to other serious symptoms.

(1) Signs and symptoms

(a)

(b)

(c)

(2) Nursing care of chronic bronchitis

(a)

(b)

(c)

(d)

(e)

4. Emphysema -

a. Signs and symptoms

(1)

(2)

(3)

(4)

(5)

b. Treatment and nursing care

(1)

(2)

(3)

(4)

5. Nursing care of the surgical patient with respiratory disorders.

a. There are two basic types of disorders which require surgery.

(1)

(2)

b. The care of this patient is basically the same as the care for any surgical patient except that special care should be taken to prevent: (These methods will be discussed under the next heading.)

(1)

(2)

Dyspnea, shock, or pain in the chest must be reported immediately.

Nursing care of all mentioned disorders will also include:

a. Relieving breathing difficulties

(1)

(2)

(3)

(4)

(a)

(b)

(5)

(a)

(b)

(c)

77

(6)

(a)

(b) Preventions proceed from and include

1

2

3

4

5

6

(7) Oxygen therapy -

Use of Oxygen Therapy Equipment

1. Safety precautions. General safety precautions apply whenever oxygen is used.

a. Regarding the use of compressed gas cylinders (tanks):

(1) Tanks must be strapped to an oxygen cart at all times.

(2) "Crack" cylinder valve to remove dust before attaching the regulator. This will prevent forcing dust into the regulator and keep the patient's oxygen line clean.

(3) Assure that the regulator is off when you turn on the cylinder valve. This prevents damage of the delicate regulator valve by a sudden harsh pressure.

(4) Turn the cylinder valve on all the way when oxygen is in use. This measure is necessary to insure accurate liter flow.

(5) Avoid using oil or grease on cylinders, regulators, or other oxygen equipment.

(6) Use a cylinder cap to protect the valve when the oxygen tank is not attached to equipment.

b. NO SMOKING Rules

(1) Signs should be placed in all areas where oxygen is in use or is stored.

(2) Verbally warn other patients, visitors (and personnel, if necessary) that they may not smoke in the room.

(3) Counsel the patient that smoking is not permitted. If he is confused, remove all of his smoking equipment from the bedside.

(4) Adhere to the NO SMOKING rules yourself.

c. All sources of ignition (fire or sparks) or electrical apparatus must be kept out of the oxygen tent canopy and must not be used or placed near the head of a patient who is receiving nasal or mask oxygen.

(1) Alcohol or oil should not be used for back rubs when a patient is receiving oxygen.

(2) Remove electric bellcord and give the patient a hand bell.

2. Equipment

a. Equipment common to oxygen administration.

(1) Oxygen tank with a protective cap.

(a) Tank - painted green to indicate that the gas they contain is hospital oxygen. They contain 2200 pounds of pressure per square inch when full (PSI).

(b) Protective cap - protects the valve against damage and dust.

(2) Wrench - needed to tighten the regulator.

(3) Regulator. A plain regulator will be used for a mask, catheter, or a cannula. A regulator with a flush valve will be used for a tent.

(a) The regulator is used to decrease oxygen pressure flowing from the tank to 50 PSI.

(b) Pressure gauge - registers oxygen pressure remaining in tank in PSI.

(c) Liter gauge - registers amount of oxygen being delivered to the patient treatment apparatus. It is adjustable to the desired flow.

(d) Flush valve - when used allows rapid flow to fill tent with oxygen at the beginning of therapy.

(4) Oxygen Cart. Used to transport oxygen tanks.

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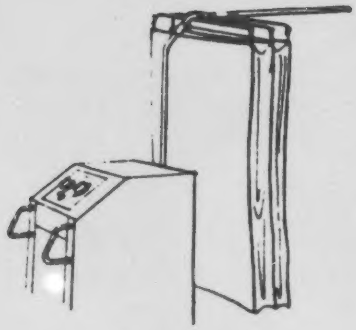
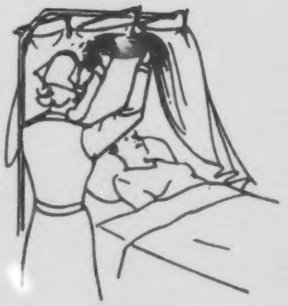
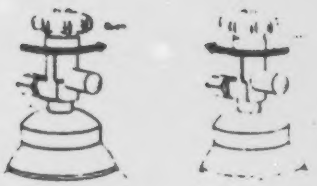
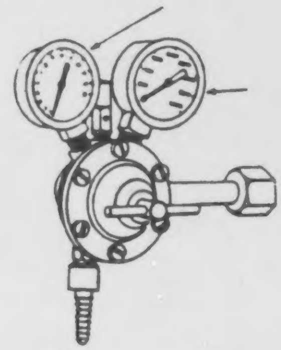
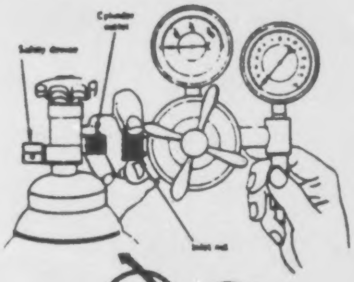
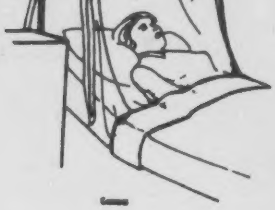


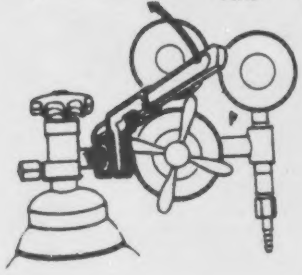


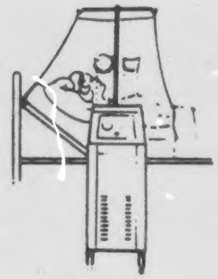





Safety device
Cylinder outlet
Inlet nut







3. Procedure for administering oxygen by tent. (Refer to diagrams on facing page.)

a. Explain the procedure to the patient.

b. Prepare the patient unit.

(1) Remove wool blankets if in use and replace with cotton blankets. Remove plastic pillow case. (Decrease sources of static electricity.)

(2) Remove electrical devices which could be the source of a spark - call bell, heating pads, etc.

(3) Arrange furniture to allow room for the oxygen equipment.

c. Position the patient with head slightly elevated.

d. Prepare the equipment in utility area.

(1) Remove any possible dust from tank and regulators in case equipment has been in infrequent use.

(2) Attach the regulator.

(a) Remove cap and store in a safe place.

(b) Crack cylinder.

(c) Connect regulator to cylinder.

(d) Tighten with wrench.

(3) Wash your hands before touching equipment personal to patient.

(4) Cooling unit and tent.

(a) Use new or "clean" tent free from holes.

(b) Fold canopy up over support rods.

e. Roll tent unit to the appropriate side of the upper portion of patient's bed.

f. Plug unit power cord into electrical outlet that has a ground terminal insert. If there is no ground terminal on the plug you must have a ground adapter.

g. Connect oxygen supply tube on tent unit to the regulator. (Small plastic tubing will not carry enough oxygen for tent.)

h. Start cooling unit motor by turning off/on switch to ON position.

i. Turn on oxygen supply and adjust regulator to 15 LPM.

j. Pull canopy down over the patient, using care in avoiding his head and face. Adjust canopy squarely over patient and tuck under mattress at head and sides of bed. Be careful to allow slack at the top for the head to be lowered if necessary without pulling on the canopy.

k. Use an extra sheet to mold the lower front portion of the canopy close (but not taut) to the patient's thighs.

l. Explain that the patient will hear a loud rush of air as you flush the tent.

m. Depress the flush valve for 2 minutes at 15 LPM.

n. Adjust the LPM as ordered by the physician. (Usually 10-12 LPM for a tent.)

o. Adjust the thermostat. Recommended temperature is 68-72 degrees F., depending upon external atmosphere, or set approximately 12 degrees lower than room temperature if room is above 80 degrees. The unit will ice up and become ineffective if worked too hard.

p. Post NO SMOKING signs.

NOTE: Use of the oxygen tent is becoming less popular recently. There are, however, several additional pieces of equipment which utilize the canopy and similar principles. You will find that learning this procedure helps you to adapt to many new therapeutic devices.

4. Procedure for administering oxygen by mask.

a. Explain the procedure to the patient.

b. Prepare the patient unit. Same as for the tent, can you recall what should be done and fill it in?

(1)

(2)

(3)

c. Position the patient in Fowlers position or semi-Fowlers.

d. Prepare equipment in utility area. (Steps (1), (2), and (3) same as for tent.) Fill this in during your study.

(1)

53

(2)

(3)

(4) Attach humidifier (must be used with mask or nasal methods.)

  (a) Use distilled water to prevent corrosion or clogging.

  (b) Fill to water line or about two-thirds full.

(5) Mask and tubing

  (a) Use a disposable mask if possible.

  (b) Select a size appropriate for patient.

  (c) Small bore disposable tubing may be used and attached at the bedside.

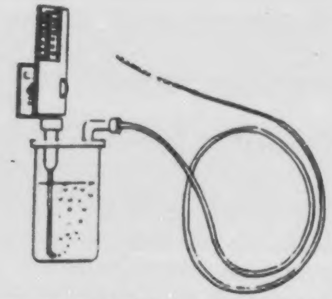
e. Connect mask and tubing to humidifier.

f. Turn on oxygen supply and adjust regulator to 3 LPM.

g. Apply mask over patient's nose and mouth and adjust for comfort.

h. Adjust LPM to doctor's order. (5-6 LPM is common)

i. Post NO SMOKING signs.



Nasal Catheter, Humidifier
and one type of Regulator

85

5. Procedure for administering oxygen by nasal catheter. (Steps a through d. (4) will be the same as for the mask.)

a. Explain the procedure to the patient.

b. Prepare the patient unit. Same as for the tent.

(1) Remove wool blankets if in use and replace them with cotton blankets. Remove plastic pillow case. (Decrease sources of static electricity.)

(2) Remove electrical devices which could be the source of a spark - call bell, heating pads, etc.

(3) Arrange the furniture to allow room for the oxygen equipment.

c. Position the patient in Fowlers or semi-Fowlers position.

d. Prepare the equipment in the utility area.

(1) Remove any possible dust from the tank and the regulators in case the equipment has been in infrequent use.

(2) Attach the regulator.

(3) Wash your hands before touching equipment personal to the patient.

(4) Attach the humidifier.

(a) Use distilled water to prevent corrosion.

(b) Fill to the water line or about two thirds full.

(5) Catheter and tubing

(a) Disposable catheters and small bore tubing are commonly used.

(b) May be attached at the bedside.

(6) Determine the approximate depth to which the catheter is to be inserted by measuring the distance from the ear lobe to the nose, and mark with tape. (Fig. 9a and 9b)

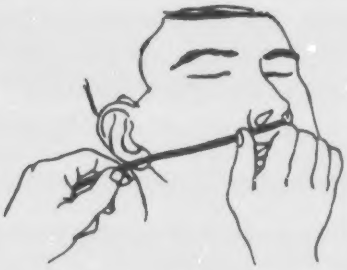


Fig. 9a

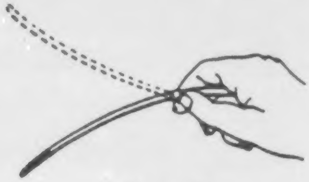


Fig. 9b

55

(7) Attach catheter to tubing.

(8) Adjust regulator to 3 LPM and insert catheter tip into cup of water. Assure catheter is patent. (Fig. 10)

(9) Lubricate catheter tip with water or water soluble lubricant such as Lubrifax or Surgigel. Do not use greasy substances such as vaseline.

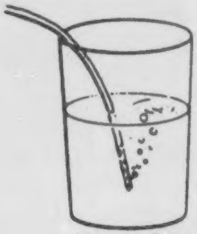


Fig. 10

(10) Flex catheter to a slight curve and slowly insert through the nostril until the tip is barely visible by the uvula. (Fig. 11a and 11b)

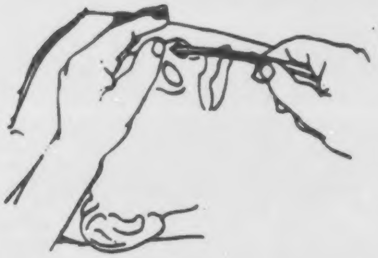


Fig. 11a

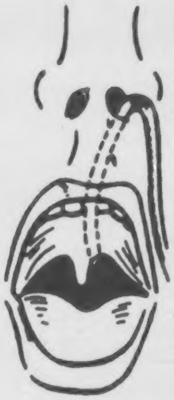


Fig. 11b

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(11) Check position with tongue depressor and flashlight. (Fig. 12)

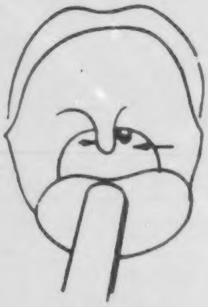

Fig. 12

(12) Tape catheter to nose.

(13) Allow a small loop for head movement and secure tube to pajama top.

(14) Adjust LPM to doctor's order. (4-6 LPM common)

(15) Post NO SMOKING signs.

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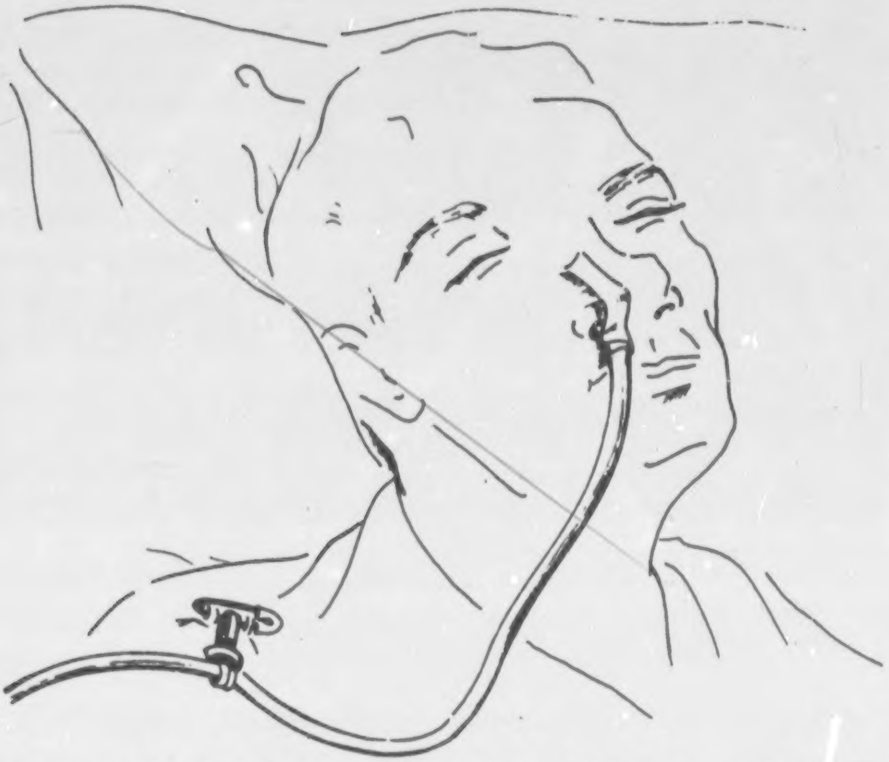
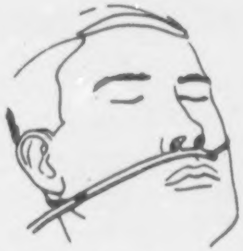


Nasal catheter taped in place and attached to the pajama top. Notice that the catheter is allowed to remain in a relatively straight position so that it will not irritate the nostril more than is absolutely necessary. If skin oil is removed from the nose, one piece of tape placed along the side of the nose and then wrapped around the catheter will hold it securely. Any pull is in line of direction with the tape and will not peel it off.

6. Procedure for administering oxygen by nasal cannula.



This procedure is essentially the same as the procedure for the oxygen mask. You must only substitute the cannula for the mask. Soft pliable disposable cannulas are usually available. This method is often more comfortable and convenient for the patient than other methods. However, due to the fact that it is generally thought to be less effective, it may not be the physician's method of choice for the more seriously ill patient. When used, the cannula should be removed and the tips cleaned every few hours. The nares should also be cleaned.

BASIC FACTS AND PRINCIPLES RELATED TO RESPIRATORY DIAGNOSTIC, THERAPEUTIC, AND SPECIAL NURSING PROCEDURES

OBJECTIVES

Select basic facts and principles related to respiratory diagnostic, therapeutic, and special nursing procedures.

INTRODUCTION

It will be your job many times to aid the nurse or physician in procedures which relate to the diagnosis of a problem or which may help this patient recover much more quickly than if the procedure wasn't done. Some select procedures will be discussed below. Further reading for expanding on the definitions below may be found in:

AFM 160-34, The Medical Airmans Manual, Pages 4-61, 4-56, 4-60, and 4-114.

Sutton's, Bedside Nursing Techniques, 1969, Chapters 5 and 13.

First and foremost, a complete explanation to the patient of the procedure is always!! necessary no matter how insignificant the procedure seems.

INFORMATION

1. The role of the MSS in diagnostic procedures.

    a. Routine chest X-ray.

        (1)

        (2)

        (3)

        (4)

(5)

b. Bronchoscopy -

(1)

(2)

(3)

(4)

(5)

60

c. Bronchogram -

(1)

(2)

d. Sputum collection for examination -

(1) For single specimen

(a)

(b)

(c)

61

(2) For 24 hr specimen

(a)

(b)

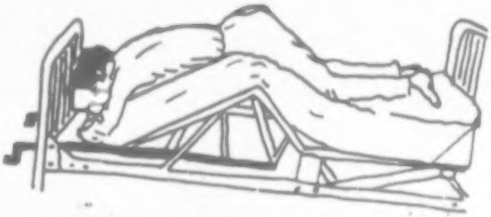
(c)

(3) Caution!!! use good handwashing techniques as the contents are suspected of being infectious.

2. The role of the MSS in therapeutic and special nursing procedures. This section will deal with methods of preventing respiratory complications and methods of treating patients with respiratory difficulties.

a. Postural drainage - this is a method of positioning a patient in order to remove fluid from the lungs by using gravity. Your duties, in addition to placing the patient in the position, are:

These are three positions of postural drainage and the steps taken to place a patient in these positions.

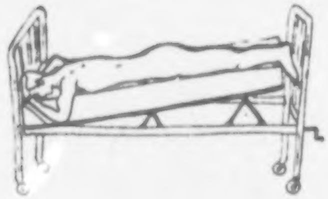


Use of a bed which has a gatch for elevating the middle.

POSITION #1

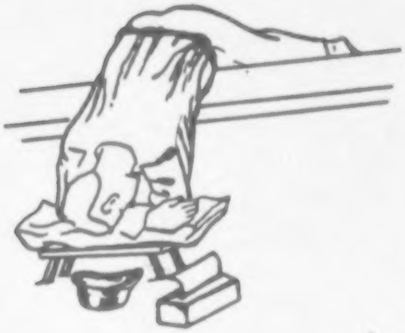
1. Assemble tissues and an emesis basin.
2. Explain procedure to patient.
3. Keep patient in position 5-15 minutes.
4. Instruct patient to breathe slowly and regularly in through the nose and out through the mouth.
5. After draining in each position the patient should be encouraged to cough.

POSITION #2



1. Remove the pillow.
2. Position the patient in the prone position.
3. Raise the head of the bed and disengage the support bar.
4. Elevate the foot of the bed to the highest gatch. (Check to see that it is secure.)
5. Elevate the knees (by using the crank on the right side of the bed) until on an even plane with the foot of the bed.
6. Lower the head (by using the crank on the left side of the bed) until leveled into the Trendelenburg position.

POSITION #3



1. Place a chair beside the bed with a pillow and emesis basin.
2. Assist the patient to lower top half of torso over edge of bed.
3. Instruct the patient to turn his forearms for support.

(1)

(2)

(3)

(4)

(5)

b. Closed chest drainage - a method for removing fluid, air, or pus from the pleural cavity using water as a seal to prevent air from entering pleural space. Your duties in maintaining the chest drainage are:

(1)

(2)

(3)

(4)

(5)

(6)

(7)

(8)

(9)

(10)

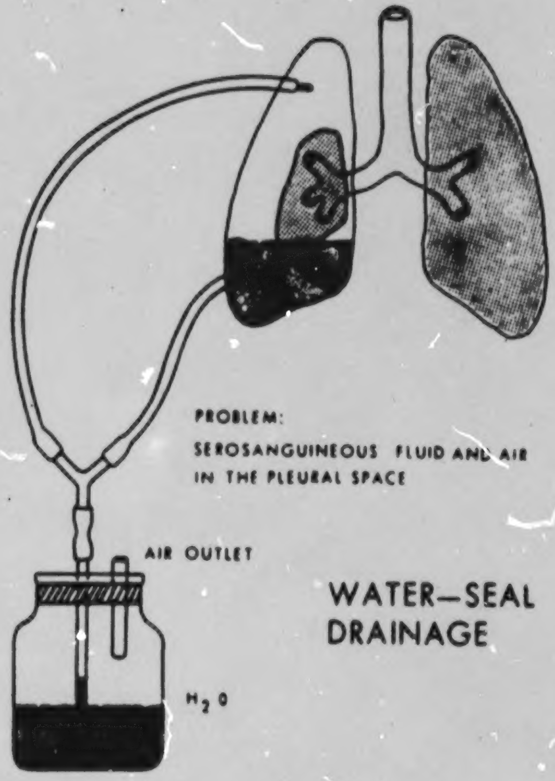
(11)

(12)

(13)

(14)

Closed chest drainage - This set up is used for removing both air and fluid. Single tubes may be used for either air or fluid.


PROBLEM:
SEROSANGUINEOUS FLUID AND AIR IN THE PLEURAL SPACE
AIR OUTLET
H_2O

WATER—SEAL DRAINAGE

c. Thoracentesis and paracentesis - thoracentesis has been explained previously. Paracentesis is the same basic procedure but usually pertains to the abdominal cavity and is done to relieve tension on the diaphragm.

d. IPPB - Intermitent positive pressure breathing

(1) Used for the following effects:

(a)

64

(b)

(c)

(2) Conditions that may indicate the need for IPPB therapy.

(a)

(b)

(c)

(d)

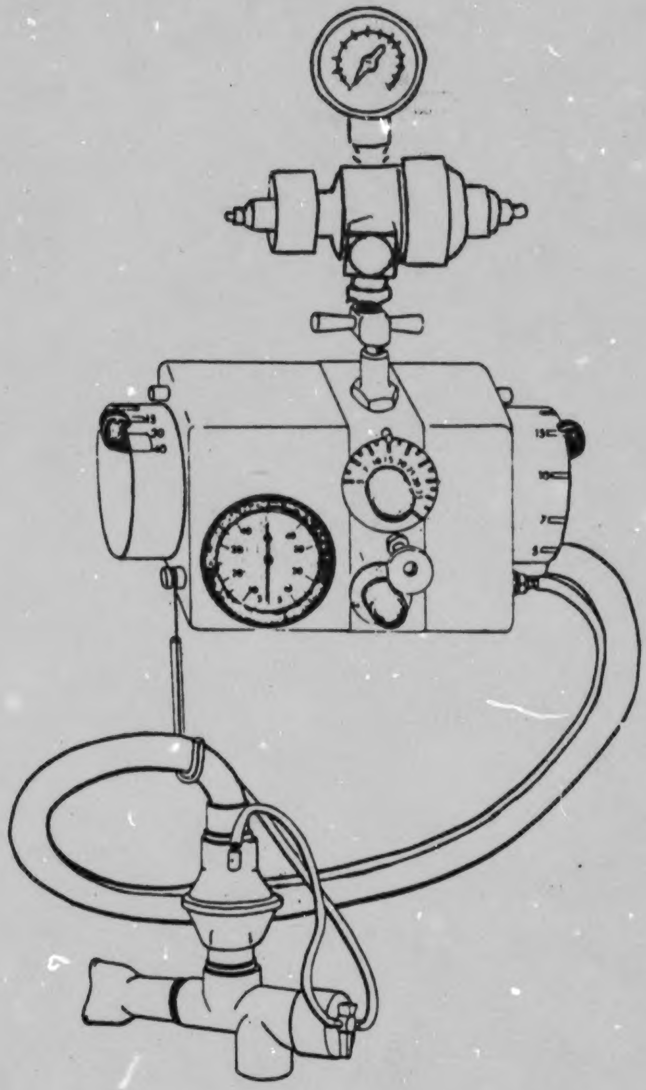
(e)

(f)

(3) Parts of the bird unit

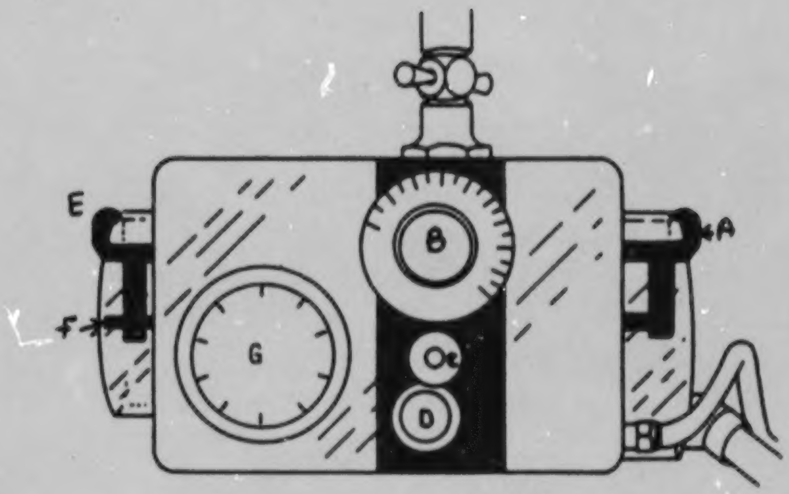
(a) The regulator -

NOTE: The film and lab will aquaint you further with the respirator and the methods of operation.



(b) The tubing. The tubing consists of a large green plastic tube about 3/4 inch in diameter and two pieces of small green tubing about 3/8 inch in diameter. The large tube and the long length of small tubing is merely an extension from the machine to the nebulizer and exhaust unit. The short piece of small bore tubing connects the exhaust unit with the nebulizer.

The Bird Unit.



(A) Pressure Control. (B) Inspiratory Flow Rate Dial. (C) Air Mix Control. (D) Apnea Control. (E) Sensitivity Control. (F) Manual Control. (G) Pressure Gauge.

(c) The pressure control regulates the amount of air or oxygen that is delivered to the lungs. If no pressure is ordered by the physician, set it at 15 to initiate treatment for adults. You may then adjust it to the needs and capacity of the patient.

(d) The inspiratory time flow rate dial controls the amount of time required to fill the patient's lungs. The suggested initial setting is 10-15. Lower settings may achieve greater lung expansion as slow rates of flow will pass through small openings with greater efficiency. The principle here is something like trying to fill a coke bottle at a water faucet. If you turn the faucet on too strong, little water will flow into the bottle. If you run the water slowly, you can fill the bottle. The inspiratory time is usually not pushed beyond three seconds in obtaining maximum ventilation.

(e) The air mix control is used to control the air/oxygen ratio when oxygen is used. When the knob is pushed in, the patient will receive 100% oxygen. When the knob is pulled out, the patient will receive 60% air and 40% oxygen. You will only administer 100% oxygen on the specific order of the physician. A small metal clip placed on this control to hold it open is part of the standard equipment and should remain in place during normal use of oxygen or compressed air.

(f) The apnea control can be used for patients who can't breathe for themselves. During ordinary treatments this dial should be in the off position, turned clockwise to the right as far as possible. When automatic cycling of the machine is desired, turn the dial counter clockwise until the desired number of respirations is achieved. Naturally, you would seek assistance if the patient developed apnea, so you need not master the application of this control immediately.

(g) The sensitivity control regulates the amount of inspiratory effort needed to start the machine. The trial setting is 15 which may be adjusted to patient needs. You should decrease the number of the setting to decrease the patient effort required.

(h) The manual control is a small red rod protruding from inside the sensitivity oval. It is used for demonstration and for bleeding gas from the machine after its use. The control should be pushed in to start the machine and pulled out to stop it.

(i) The pressure gauge or the manometer indicates the pressure being reached inside the patient's air passages. This gauge is related to (A) the pressure control. The gauge should show a slight negative reading toward the right when the patient finishes exhalation. During inspiration the dial should swing to the left until the preset pressure is reached before the machine shuts itself off. The gauge is calibrated in centimeters of water pressure.

(j) The nebulizer. This part of the respirator is very important as it delivers a fine mist to deep parts of the lung. If no medication is ordered, saline or distilled water should be used. Check to see that a fine mist is being formed by holding the mouthpiece, mask or adapter up to the light after pushing the pin to turn the machine on. A dry nebulizer or one which is not functioning will dry the delicate mucous membranes.

(4) Nursing Care. Administration of IPPB treatments, like any other procedure you learn in this course, does not stop with mechanical knowledge and skill. You must create the environment in which the patient can adjust physically and emotionally to the use of the equipment. How can you do this?

(a) Your thorough knowledge, explanation and willingness to answer questions regarding the machine will give the patient confidence in the treatment and in you as the therapist.

(b) Place the patient in an upright position with his head in a normal anatomical position as this keeps his airway open and relieves strain.

(c) Teach your patient to keep his mouth closed around the mouthpiece and to breathe in and out through the machine as normally as possible. (A noseclip may be needed at first.)

(d) Remain with the patient during the first treatment to watch for fatigue or malfunction of the machine.

(e) Encourage the patient to stop and cough during the procedure if necessary to expel loosened secretions.

(f) Thorough coughing after the treatment is also indicated.

(g) Finally, keep the equipment clean and sanitary for the patients use.

1 When a patient uses the equipment serveral times during the day, the nebulizer, exhaust unit, and mouthpiece should remain with the patient.

2 Thorough rinsing under running water and shaking out all the excess water will be adequate.

3 Nebulizers and exhaust units should be disassembled and disinfected every 24 hours.

a Where an inhalation therapy department exists, this will usually be cared for by the exchange of clean equipment for the dirty equipment once a day.

b In other situations, you will have to care for this disinfection yourself. (See suggested method in the laboratory section at the end of this lesson.)

e. The tracheostomy - obtain definition from lecture.

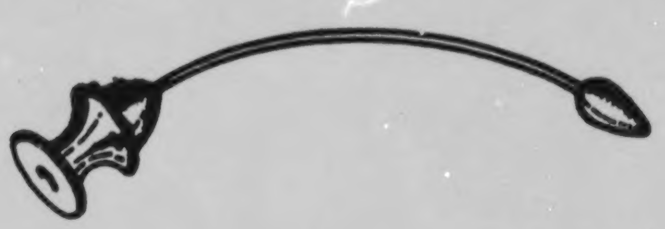
When excess secretions, swelling or other obstructions to a patient's open airway cannot be managed by simple means, a surgical opening into the patient's trachea must be made. This opening below the Adam's apple is maintained by the use of small silver or plastic tubes which are held in place by ties similar to those on a bib. The tracheostomy is occasionally permanent where a serious problem such as cancer has damaged tissue. It is more often temporary as for the burned patient whose throat is swollen due to heat and smoke. The Medical Service Specialist will care for this patient frequently. This lesson will show you how to keep the tracheostomy tube clean and open as well as point out other special needs of the patient with a tracheostomy.

(1) A tracheostomy is often performed as a temporary measure after injury or acute respiratory infection. It may be permanent where tumor tissue has been involved. Breathing can be improved and secretions can be removed from the patient's respiratory tract in situations where the patient cannot cough them up.

(2) Primary equipment

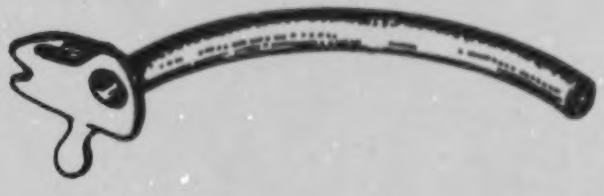
(a) A tracheostomy set includes three separate items which are made of either German silver or plastic. When the trach set is made of German silver the parts are not interchangable. The sets are sized from 00-8. The size of the patient involved will determine the size of the set to be used.

(b) In discussing the tracheostomy set the first of the three parts we will define is the obturator.



The obturator is an olived tipped curved rod, used to guide the outer cannula into the trachea opening. This prevents the scraping of the back of the trachea. An obturator is used whenever a clean outer cannula is inserted. Each obturator belongs to a specific set. The obturator is usually attached to the head of the patient's bed after use so that it is available, should the outer cannula slip out by accident. By keeping it there we will also know where to find it when the other parts of the set are to be cleaned and reprocessed.

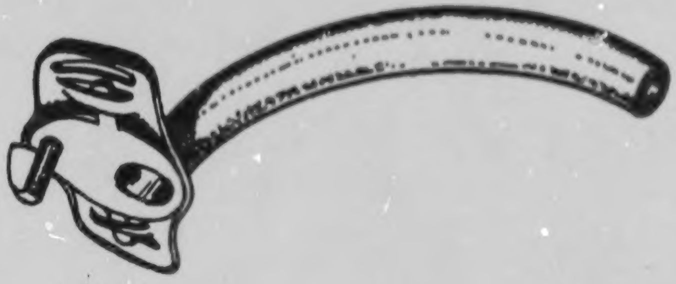
(c) The next item is called the outer cannula.



The outer cannula is the shell which holds the trach open. You must always be certain that the outer cannula is free from any obstructions and held secure by the cotton twill tape, fastened around the patient's neck.

The outer cannula holds the inner cannula in place with the help of a small lock located at the exterior end of the outer cannula. The inner cannula also fits perfectly inside the outer cannula.

(d) The final item of a tracheostomy set that we will discuss is the inner cannula.



The inner cannula is the item that you will deal with most in performing routine patient care. This removable part exists to make cleaning of the inside of the tube an easy task for nursing personnel. The inner cannula is inserted into the outer cannula after the obturator has been removed.

The removal, cleaning and replacing of the inner cannula will be discussed later during the lesson.

(e) Emergency and maintenance equipment needed

1 4 X 4 (sterile for new trach) or telfa pads. If you cut gauze to fit around the trach, care must be taken to bind raw edges with tape to avoid chance of patient aspiration of loose threads.

2 Cotton twill tape or tube gauze

3 Whistle tip suction catheters with Y connector

4 Suction machine

5 Saline solution

6 Hydrogen peroxide

7 Solution containers

  a For saline tu rinse catheter during suction

  b For hydrogen peroxide to clean inner cannula

8 Pipe cleaners, tracheostomy brush

9 Surgically clean forceps

10 Tissues

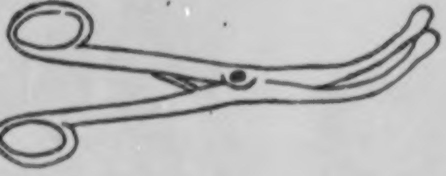
11 Waste bag

12 Paper and pencil

13 Duplicate sterile tracheostomy tube set

(f) Supportive Care Procedures

1 General care principles		IMPORTANT POINTS (Why?)
a	The patient usually lies in the Fowler's position.	Makes it easier for him to cough up secretions.
b	Examine the tracheostomy tube at frequent intervals. The ties holding the outer cannula should be tied in a square knot at the side of the patient's neck.	For comfort and security.
c	Fasten the obturator to the head of the bed.	So that it is always available.
d	Aspirate the tube as needed with the suction catheter.	Suction should be gentle to avoid injuring delicate membranes.
e	Wipe away secretions carefully and quickly before they can be aspirated. Do not use cotton or cotton tipped applicators for wiping away secretions.	To minimize the need for suctioning. Anything with fuzz or lose fibers should be avoided to prevent aspiration of something which would be a foreign body to the lungs.
f	Turn the patient on his side at least every 2 hours to promote aeration of the lungs and to prevent atelectasis.	This is a basic to the prevention of respiratory problems as you may recall from a previous lesson.

	IMPORTANT POINTS (Why?)
g Watch for symptoms of complications i.e. hemorrhage, shock, respiratory difficulties, apprehension and cyanosis.	Increasing restlessness and apprehension are indicative of hypoxia. Items 7 and 8 are especially important for a new trach.
h Check the blood pressure and pulse rate frequently during the first 24 hours. You will usually have specific orders on this.	Low blood pressure and a rapid, weak pulse are signs of shock.
i Keep gauze moistened with normal saline solution over the opening of the tube in order to moisten the inspired air and to filter out dust particles.	This is an attempt to replace some of the functions performed by the nose when breathing occurs through normal channels.
j Use the stem inhalator if additional moisture is needed to maintain the patient's comfort.	
k If the outer cannula should come out, get a person experienced in inserting the outer cannula to replace it at once. You may need to hold the airway open with a tracheal dilator until help arrives. Always keep this clamp at the bedside along with a clean trach set.	
l Keep the room well ventilated and normal in temperature.	This opening disturbs the normal function of the vocal chords. Some patients are able to speak a word or two by covering the opening momentarily. You may simplify communication by wording questions so the patient may answer yes or no. When he wishes to say more he needs the assurance of having a way to do so.
m Paper and pencil should be provided as a means of communication for the patient.	
2 Tracheal suction	
a Attach catheter to suction machine, keeping catheter inside package.	
b Adjust suction machine to between 5 and 10 lbs pressure.	This may be done while covering the open tip of of the Y tube or the thumb hole on a disposable catheter.

c	Gently insert the catheter into the tracheostomy tube (no more than one inch beyond the cannula tip).	Deep aspiration is done by more experienced personnel (doctor, nurse, etc.) You may need assistance if the patient still has secretions after you have cleared the upper airway.
d	While still supporting the outer cannula occlude the Y connector or whistle catheter opening and rotate the catheter gently while suctioning. Limit the length of time to 10 seconds.	If you remain in the tracheostomy for more than 10 seconds, you cut off the patient's ability to breath and thus hypoxia would become a problem.
e	Immerse the tip of the catheter into a container of sterile water or saline and suction water through the catheter to clean the tubing after use.	This is important so that the tubing doesn't become clogged with secretions which have allowed to stand in it.
f	Dispose of the catheter after each use. It is especially preferred and should be done with a new trach. Some patients with older tracheostomies may reuse suction catheters although there is always a high risk of increasing infection.	
3	Clean inner cannula	**IMPORTANT POINTS**
a	While supporting the outer cannula release the inner cannula by turning the small lock at the top. Gently remove the inner cannula and place in hydrogen peroxide for 10 minutes.	The outer cannula is never removed by the specialist. Always use care when removing the inner cannula, so as not to unnecessarily jar the outer cannula.
b	Use a brush or pipe cleaner to clean the inner cannula. Rinse in normal saline and place on gauze to dry.	
c	Aspirate the outer cannula before replacing the inner cannula.	Usually a little irritation is caused by removing and replacing the inner cannula. Expect the patient to cough. The inside of the tube must be perfectly clear when the inner cannula is reinserted or the secretions will be pushed back into the trachea.

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d Replace the inner cannula while supporting the outer cannula and immediately lock in place.	
4 Change the dressing	
a Use a 4 X 4 gauze sponge or a piece of telfa of similar size. Unfold 4 X 4 gauze to 4 X 8 size. Fold lengthwise to 2 X 8 size. Fold each end in center to modified "V" shape.	Dressings are used around trach tubes to catch secretions and to pad the edges of the tube.
b Remove the soiled and/or damp dressing while supporting the outer cannula.	
c Clean the skin around the cannula with gauze and hydrogen peroxide. (Or other solution as ordered.)	This will wipe away all secretions and make the patient more comfortable.
d Slip the new bandage around the tracheostomy with the long ends upward on each side of tracheostomy tube.	
e Change the dressing as often as necessary.	

Questions

1. What bony structures stabilize the ribs?

   a. Posteriorly

   b. Anteriorly

2. What primary purpose was cited for the bony structure of the thorax?

3. Which nerve stimulates the diaphragm?

4. What are four functions of the nasal cavity?

5. What is the mediastinum?

6. What structures are found at the terminal ends of the bronchioles?

7. What substance stimulates breathing?

8. The respiratory center is located in what part of the brain?

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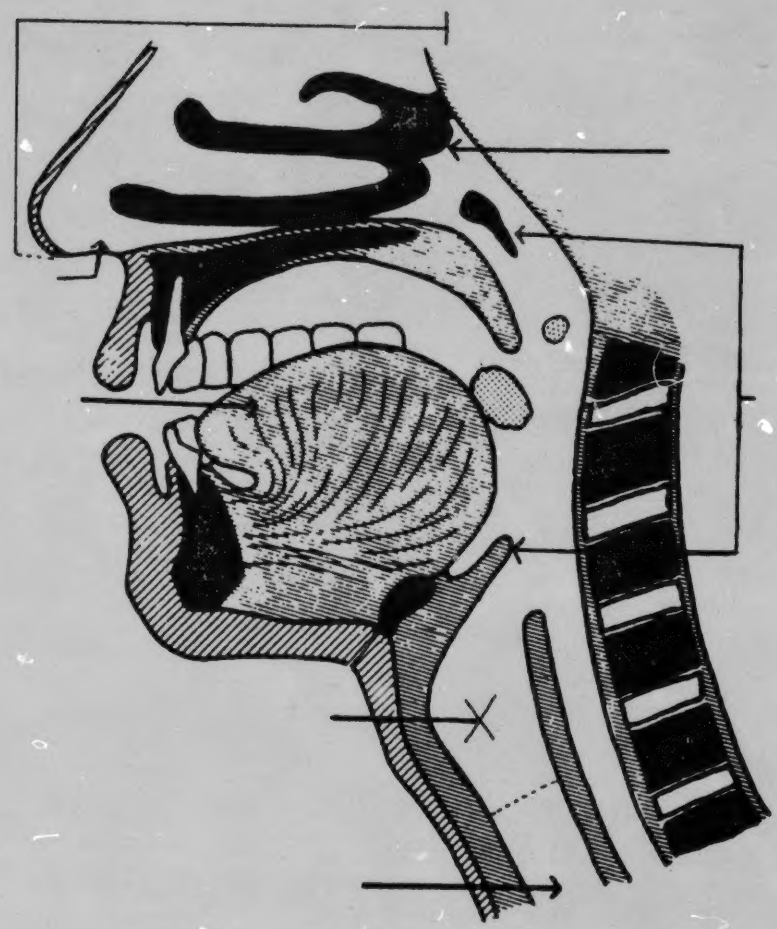
9. Label all the anatomical parts indicated by the lines and the arrows.



THE UPPER RESPIRATORY TRACT

10. Name the structure which prevents food and fluid from entering the larynx during swallowing.

11. The medical term for the "Adam's apple" is the ______________________________.

12. When non-medical people refer to the "windpipe" they mean the ________________

______________________________________.

13. List the passages, in order, through which air passes from the point of inhalation until gas exchange takes place.

14. There are ________________ lungs which have a total of ________________

lobes: ____________________ on the right and ______________________________

on the left.

15. Presence of adhesions, fluid level or air between the pleural membrane indicates

______________________________________.

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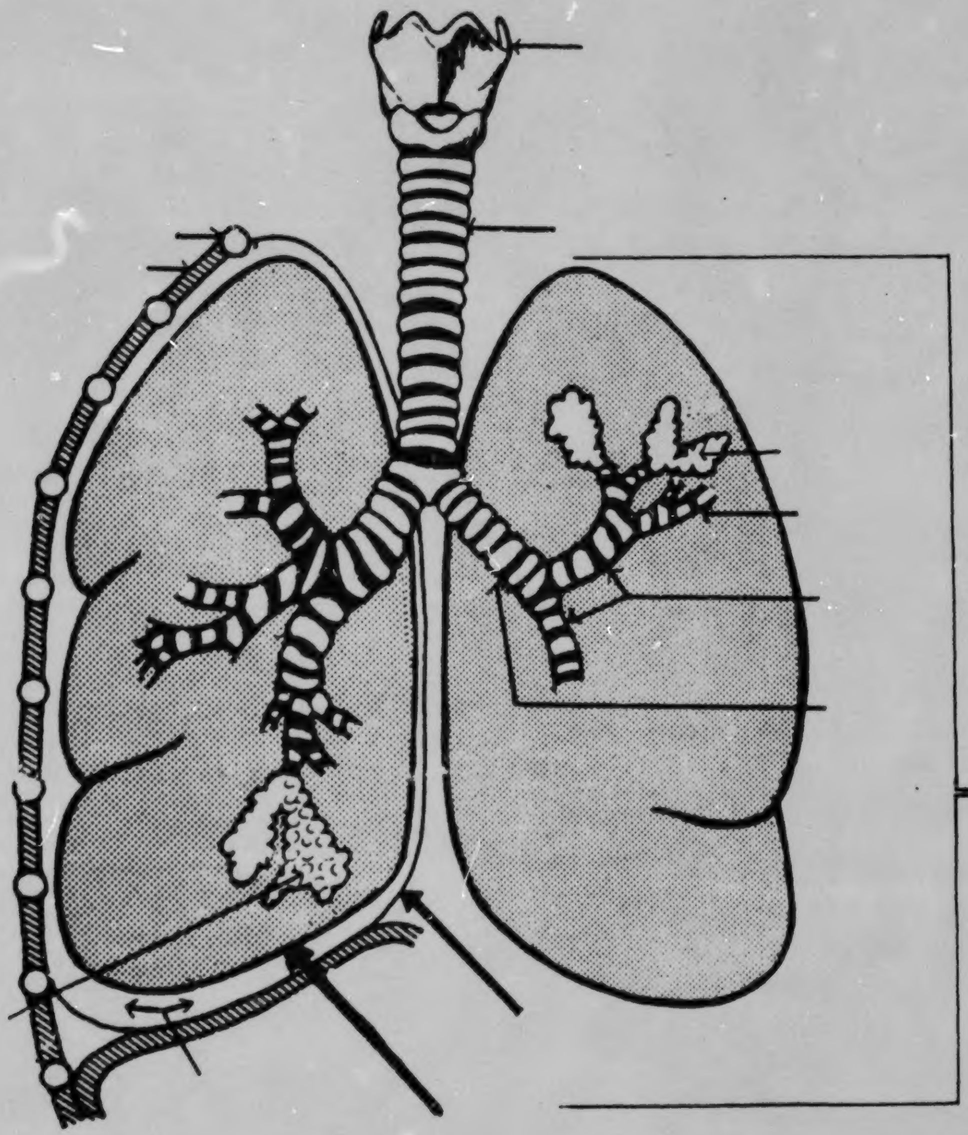
16. Label all the parts indicated by the arrows.



THE LOWER RESPIRATORY TRACT

17. Match the following terms with their meaning:

________	Diffusion	a.	Exchange of CO_2 for O_2 within the body cells.
________	External Respiration	b.	Process in which oxygen and carbon dioxide passes through selectively permeable cell membranes in the direction of the higher to the lower concentration.
________	Internal Respiration	c.	Exchange of O_2 for CO_2 in the lungs.

18. Nursing care is based upon general care principles for the preservation or the restoration of health. Name 5 principles particularly applicable to the respiratory patient.

19. List 5 ways you can help prevent the development or extension of respiratory diseases among patients and personnel.

20. In what ways does pain relief relate to food respiration?

21. List nine possible symptoms of hypoxia as mentioned in the film.

____

____

____

____

22. List six safety precautions related to the use of compressed gas cylinders.

23. List four safety precautions regarding smoking and oxygen tanks.

24. What rate of flow would you expect to use for each of the following?

Tent:

Mask:

Catheter:

Cannula:

25. What methods of oxygen therapy use a humidifier?

26. What solution should you place in the humidifier?

27. What lubricant is used for a nasal catheter?

28. How do we know how far we should insert a nasal catheter?

29. The patient who is scheduled for a bronchogram or bronchoscopy usually has an order for NPO during what period of time?

30. What is the time of choice for collecting a sputum sample?

31. Name 4 problems which may accompany prolonged bedrest.

32. Why is a thoracentesis performed?

33. Describe three possible positions for postural drainage.

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34. What are the purposes for closed or water-seal drainage?

35. Why would you "milk" a chest tube?

36. Why is it often inappropriate to clamp chest tubes?

37. Name four ways IPPB effects the respiratory system.

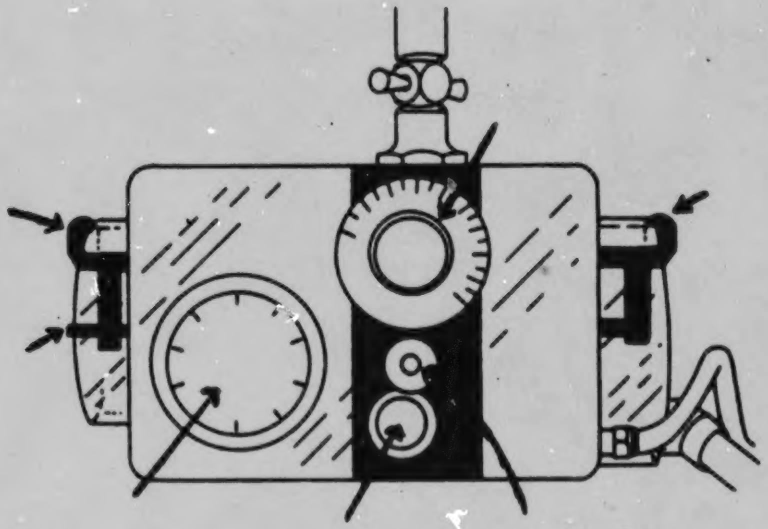
38. What triggers the flow of air or oxygen when a patient is using the Bird respirator?

39. Match the following controls and gauges with their function.

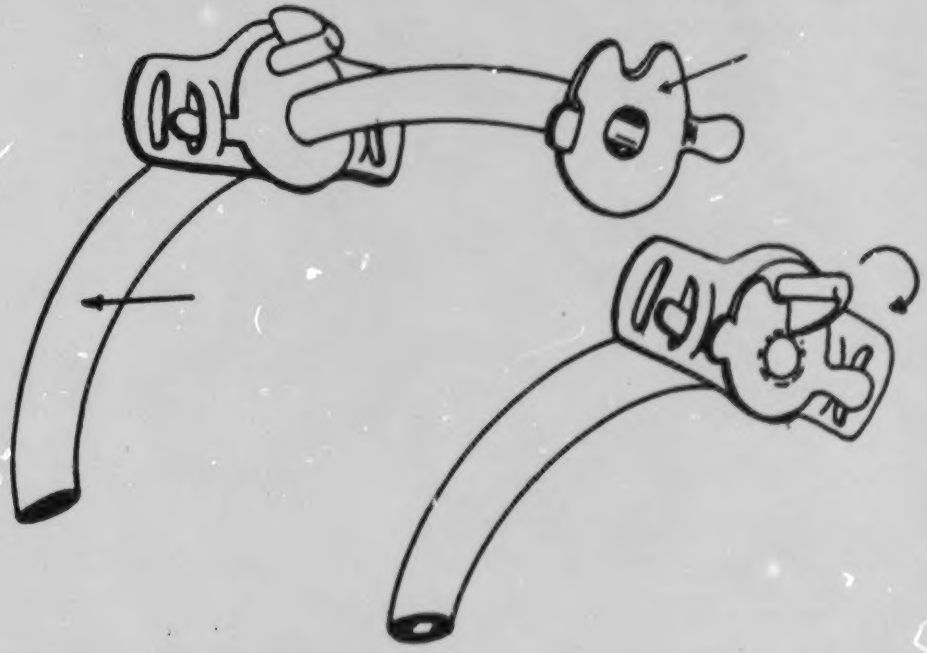
Controls	Functions
____ Pressure control	a. Controls air/oxygen ratio.
____ Inspiratory flow rate dial	b. Indicates the pressure being reached inside the patient's air passages.
____ Air mix control	c. Controls the amount of time required to fill the patient's lungs.
____ Apnea control	d. Used for demonstration and for bleeding the machine.
____ Sensitivity control	

Controls	Functions
_____ Manual control	e. Regulates the amount of gas delivered to the lungs.
_____ Pressure gauge	f. Regulates required inspiratory effort.
	g. Produces automatic cycling.

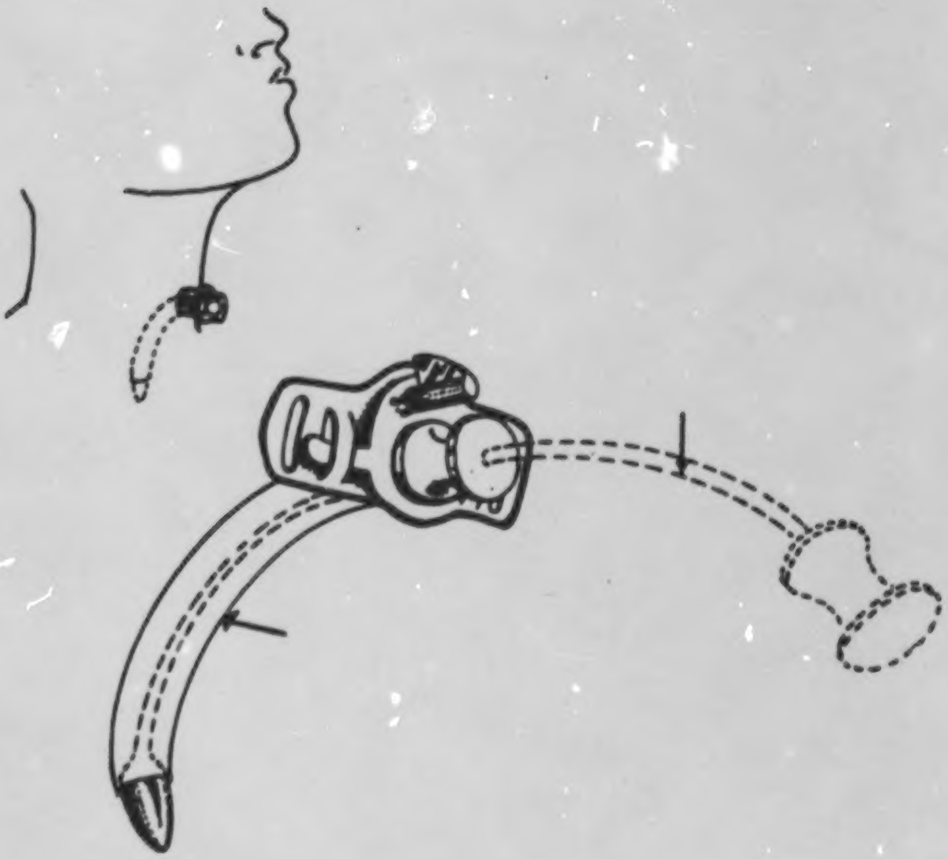
40. Label the dials and gauges indicated by the arrows below.



41. Label the following:



42. Label the following:



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43. When working with a new tracheostomy what do we constantly observe our patients for?

44. If our patient accidentally coughs his outer cannula out, what is our function until qualified help arrives?

45. A tracheostomy set includes what three items of equipment?

46. What is the maximum length of time you may suction a patient or occlude his airway with a suction catheter?

Why?

47. Parts of the tracheostomy set are not interchangeable when made of

____.

48. The obturator is used for what purpose?

49. What are we responsible for when working with the inner cannula?

50. Name at least two materials which can be used for a tracheostomy dressing.

51. How often should you suction out the tracheostomy and change the dressing?

ATC-SHEPPARD AFB TEX. 76-44

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STUDY GUIDE AND WORKBOOK

3ABR90230-III-2

Technical Training

Medical Service Specialist

CARDIOPULMONARY RESUSCITATION

December 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
Department of Nursing
Sheppard Air Force Base, Texas 76311

Designed For ATC Course Use

DO NOT USE ON THE JOB

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

SW 3ABR90230-III-2
December 1975

CARDIOPULMONARY RESUSCITATION

OBJECTIVES

Select the basic facts and principles related to the emergency care of patients with a cardiopulmonary disorder.

Working as a member of a two-man team, correctly perform cardiopulmonary resuscitation procedures on a simulated patient.

INTRODUCTION

Seldom are we aware of the physical process of breathing because it is a constant unconscious effort. However, should this process become interrupted for any reason, the body will go through several stages of discomfort, including unconsciousness, irreversible brain damage, and death.

STUDY ASSIGNMENT

1. Read, prior to class, AFM 160-34, para 3-2, "Resuscitation." You will not discuss or be held responsible for the section on mechanical aids. These aids vary from hospital to hospital. You will receive instruction on the resuscitation equipment used in the hospital to which you are assigned through OJT.

2. Working as a team member, you will practice cardiopulmonary resuscitation in the nursing arts laboratory. Be prepared to perform both mouth-to-mouth resuscitation and closed chest heart massage on a mannikin.

INFORMATION

Oxygen is the fuel for the cells. Without a continuing adequate supply of oxygen, the cells will die. The brain cells are the first to die, when they do not have an adequate supply of oxygen. Since the brain controls all of the body's functions, the death of brain cells can cause permanent disablement of these functions or even death.

In section one you will discuss the procedures used to maintain an adequate oxygen supply in a patient's system by using the mouth-to-mouth method of respiratory resuscitation.

You will also learn the principles of external cardiac massage which is necessary to maintain an adequate circulation of oxygenated blood.

This supersedes SW 3ABR90230-III-2, July 1975.

TERMINOLOGY

1. C. P. R. - the abbreviation for cardiopulmonary resuscitation.

2. Dyspnea - difficult breathing

3. Apnea - absence of breathing

4. Cheyne-Stokes Respirations - an irregular type of arrhythmic breathing, usually seen in the critically ill or unconscious patient.

5. Cyanosis - a bluish skin color resulting from a lack of oxygen. The entire skin surface may appear blue. Cyanosis is most noticeable around the lips, nail beds and ear lobes.

6. Carbon Monoxide - a colorless, tasteless, odorless gas produced by the incomplete combustion of fuel.

ANATOMY AND PHYSIOLOGY

1. Naso-oral pharynx - mouth and nasal cavity leading down to the epiglottis.

2. Epiglottis - a small flap of tissue over the trachea which helps to keep foreign material (food, water) out of the trachea.

3. Trachea - a tube through which air passes. It extends from the larynx (voice box) to the bronchial tubes (bronchi).

4. Bronchi (bronchus-singular) - two tubes that are a division of the trachea. Each bronchus enters the lung on its respective side.

5. Bronchioles - subdivisions of the bronchi in the lungs.

6. Lungs - two cone-shaped spongy organs of respiration, where the exchange of oxygen and carbon dioxide takes place.

7. Diaphragm - a dome-shaped muscle which separates the abdominal cavity from the chest cavity. It contracts with each inspiration, flattening downward. It relaxes on expiration, elevating it and restoring its dome-shape.

8. Larynx - voice box

9. Heart - a hollow, muscular organ which pumps the blood throughout the body.

10. Sternum - a flat bone connecting the ribs in the center of the chest.

11. Xiphoid process - the inferior portion of the sternum.

SELECTED PATIENT NEEDS AND NURSING APPROACHES FOR PATIENTS WITH SELECTED CARDIOPULMONARY DISORDERS

1. Causes of Respiratory and Cardiac Arrest

2. Signs and Symptoms

3. Purpose of Cardiopulmonary resuscitation (C. P. R.)

4. Procedures

5. Post-resuscitation care

QUESTIONS

If you missed any questions, review AFM 160-34 and your notes.

1. What does the abbreviation C.P.R. mean?

2. Define cyanosis.

3. What is the purpose of the epiglottis?

4. List six causes of respiratory failure and cardiac arrest.

5. List three signs and symptoms of respiratory failure and cardiac arrest.

6. What is the ratio for external cardiac massage and mouth-to-mouth resuscitation for:

   a. one person

   b. two persons

ANSWERS TO REVIEW QUESTIONS

1. Cardiopulmonary resuscitation

2. A bluish color resulting from a lack of oxygen.

3. To prevent foreign material from entering the respiratory system.

4. Severe cardiac arrythmia
   cardiac standstill
   cardiovascular collapse
   acute myocardial infarction (heart attack)
   anaphylactic reaction
   acute airway obstruction
   surgery
   accidents

5. loss of consciousness
   absence of heart sounds
   absence of pulses
   dilation of pupils
   cyanosis
   dyspnea or apnea
   convulsions (may or may not occur)

6. a. 15:2
   b. 5:1

ACTIVITY	Point Value	Your Score	REMARKS
1. Note time	3		
2. Deliver precordial blow	4		
3. Check for pulse	3		
4. Insure airway is clear	20		
5. Hyperextend neck (hands must be in correct position	15		
6. Seal patient's nose and exhale into patient's mouth. You must form a tight seal with your lips.	10		
7. Give four quick breaths	5		
8. With hands in correct position, depress lower 1/3 of sternum 1½-2 inches, once per second.	10		
9. For one-man resuscitation use 15:2 ratio. F two-man resuscitation, use 5:1 ratio	10		
10. Complete four cycles, then check for spontaneous circulation and respiration.	10		
11. If no pulse or respiration, continue until relieved.	10		
Totals	100		

Instructor's signature

Date

Atch 1

STUDY GUIDE AND WORKBOOK 3ABR90230-III-3

DEPARTMENT OF NURSING

MEDICAL SERVICE SPECIALIST

THE PATIENT WITH ENDOCRINE DISORDERS

June 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
SHEPPARD AIR FORCE BASE, TEXAS

Designed For ATC Course Use

DO NOT USE ON THE JOB

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

SW 3ABR90230-III-3
June 1975

THE PATIENT WITH ENDOCRINE DISORDERS

OBJECTIVES

a. Select metabolic terms and principles about the anatomy and physiology of a patient with endocrine disorders.

b. Select the basic patient needs and nursing care approaches for a patient with endocrine disorders.

c. Using appropriate safety precautions correctly perform sugar and acetone urine tests.

INTRODUCTION

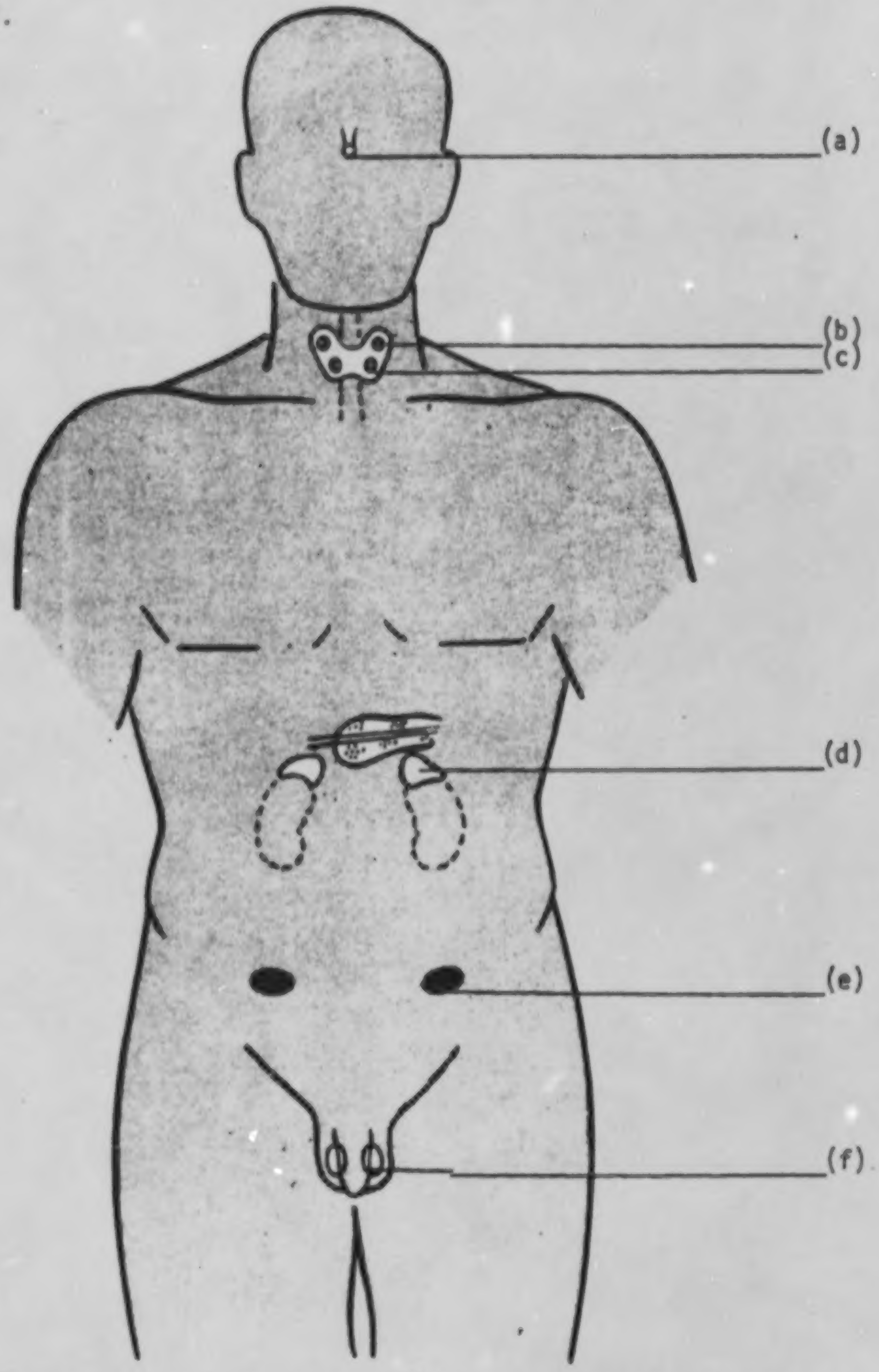
These hours are designed to assist you in gaining knowledge and understanding of the care of patients with endocrine disorders. It will help you not only in technical skill, but also it will aid you in fulfilling your responsibility in the arts of observation, listening and reporting, which are an essential part of total patient care.

Read and study prior to class discussion.

1. Endocrine SW.
2. AFM 160-34, Medical Airman's Manual, paragraph 2-19.
3. Sutton, Bedside Nursing Techniques in Medicine and Surgery, chapter 20.
4. 3ABR90230 Terminology Programmed Text, Endocrine chapter.

This supersedes SW 3ABR90230-V-4, October 1974.

EXERCISE 1.



NOTE:TO STUDENTS: Label above diagram in accordance with locations given on following page. Confirm your answers on page 14.

ANATOMY AND PHYSIOLOGY
EXERCISE 1

In order to accurately accomplish a study of those glands that make up the endocrine system, it is necessary to start with two definitions. First, the ENDOCRINE SYSTEM: a group of ductless glands that secrete hormones which have a regulating effect upon other structures of the body. Secondly, an ENDOCRINE GLAND: a group of cells that manufacture specific hormones which is secreted into the blood and lymphatic systems.

With these two definitions in mind it is now possible to discuss the specific glands, their locations, hormones, and functions.

The Pituitary Gland (a)

Because of its influence over all the other endocrine glands the pituitary gland is also referred to as the master or key gland. The pituitary gland is located at the base of the brain and its secretions are called Trophic hormones. The main function of these hormones are to:

1. Regulate the functions of the other endocrine glands.
2. Control lactation.
3. Constrict blood vessels to increase the blood pressure.
4. Stimulate contraction of smooth muscle (i.e., uterus contraction at childbirth).
5. Secrete an antidiuretic which controls the volume of urine excreted by the kidneys.

The Thyroid Gland (b)

The thyroid gland is located in the anterior middle portion of the neck. It secretes a hormone called Thyroxin which regulates basal metabolism and body growth and development. The thyroid gland also stores iodine.

The Parathyroid Glands (c)

The parathyroid glands are very small and are located with the thyroid gland. They secrete a hormone called Parathormone which regulates calcium and phosphorous levels in the body.

Hyperactivity of the parathyroid glands causes a calcium increase in the body making the bones brittle. Hypoactivity causes the loss of calcium from the body resulting in irritation of the nervous and muscular systems and causing severe muscle spasms (tetany) starting in the upper extremities spreading to the chest and diaphragm. It also causes a generalized skin rash.

The Adrenal Glands (d)

There are two adrenal glands located on the superior portion of each kidney. They secrete Adrenalin (Epinepherine) which controls our reactions under stress by increasing the heart rate, blood pressure, and respirations. It also causes constriction of peripheral blood vessels.

The Pancreas (e)

The pancreas is located behind the stomach. It has a dual function as an endocrine gland and as an accessory organ of digestion. The Islets of Langerhans (small cells within the pancreas) constitute the endocrine portion of the gland. The Islets of Langerhans secret the hormone known as Insulin which is responsible for metabolization of sugar and starch (carbohydrates).

Gonads (Sex Glands) (f)

OVARIES. The ovaries are located close to the lateral walls of the pelvic cavity in the female. They secrete two hormones which are listed below separately, along with their functions.

Estrogen. Determines the secondary sex characteristics of the female, and prepares the uterus to receive the fertilized ovum.

Progesterone. Necessary for the full growth of the mammary glands, and maintains the pregnancy.

TESTES. The testes are located in the male scrotum. They secrete the hormone testosterone.

Testosterone. Responsible for the secondary sex characteristics of the male, and essential for the normal sexual behavior in men.

EXERCISE 2.

Complete these review questions for Anatomy and Physiology of the Endocrine System prior to class. Check your answers on page 14.

1. Which Endocrine glands are located on the superior portion of each kidney?

2. Into what systems are all hormones from the ductless glands secreted?

3. Which endocrine gland is referred to as the master or key gland? Why?

4. What hormone is secreted by the thyroid gland?

5. Which hormone metabolizes phosphorus and calcium in the blood?

6. Female secondary sex characteristics are produced by what hormone?

7. List two functions of the pituitary gland.

8. Production of sperm is aided by what hormone?

9. What is the function of insulin?

10. What is the function of adrenalin?

DIABETIC PATIENT CARE

Although there are numerous diseases and disorders caused by malfunction of one or more of the endocrine glands, we will discuss diabetes mellitus because of its frequent occurrence.

Diabetes mellitus is by definition, a disorder of carbohydrate metabolism resulting from inadequate production or utilization of insulin. The reason this occurs is unknown, however, it is known to be hereditary and it also occurs more frequently in obese people.

EXERCISE 3.

The following is a list of signs and symptoms associated with diabetes. Match each sign or symptom with its correct definition. Check your answer on page 14.

1. Hyperglycemia	_____ Sugar in the urine
2. Glycosuria	_____ Excessive urination
3. Diuresis	_____ Concentration of blood sugar above normal
4. Polydipsia	_____ Excessive hunger
5. Polyphagia	_____ Excessive thirst

Other signs and symptoms include fatigue, weight loss, and dry itchy skin caused by the extreme loss of fluids from the body tissues.

With these in mind, we can now go into a study of the nursing care principles for the diabetic.

Diet

Diet is the most important aspect of diabetic patient care. Some patients can be controlled without insulin but never without a proper diet. The patient needs an even distribution of calories throughout the day to include three meals and supplemental snacks. The calorie intake will be determined by the physician after he reviews all laboratory tests and will be based on the patient's age, weight, activity, and general physical condition. The prescribed diet has certain regulations which must be strictly followed by the patient to enable him to properly use the food supplied.

The patient must eat all of the portion of food supplied at each meal, otherwise he will upset the balance between his diet and his insulin dosage. He should also eat at regular intervals at approximately the same time every day. By doing this he will prevent a possible insulin reaction.

Foods which are not eaten must be replaced. Again, this is to prevent an insulin-diet imbalance and possible reaction. The dietician will usually arrange for snacks to provide food replacement. These will be based on the patient's needs and desires.

The medical service specialist plays an important role in the diabetic patient's diet therapy. The specialist must be sure to serve the patient's meals on time (enabling the patient to follow regular eating intervals). Check trays for proper food (remember that no sugar is to be served to the patient), and encourage the patient to eat all his food. The patient's likes and dislikes should be followed as closely as possible to help him in eating all his food each meal. The specialist should also report to the nurse the type and amount of food not eaten. This enables the dietician to provide the replacement snack the patient needs.

Insulin

The purpose of insulin is to enable the body to efficiently use carbohydrates, thereby lowering the blood sugar level. Insulin is the juice extracted from the pancreas of animals. It is available in various types and strengths depending on the length or duration of action desired. It can be a short acting type (regular) where action begins in about thirty minutes and lasts six to eight hours, or it can be a long acting type (NPH) where action begins in four hours and can last 28 to 30 hours. NPH, PZI, and lente types of insulin are cloudy and milky in appearance and must be thoroughly mixed before they are administered, so that the proper proportion of the crystals are given. This is accomplished by gently turning the bottle end to end. The bottle must not be shaken or there will be bubbles in the solution, resulting in a possible dosage alteration.

Insulin is measured in units. U-40 means that there are 40 units of insulin per milliliter, U-80 means that there are 80 units of insulin per milliliter. A specially marked insulin syringe must be used when administering insulin so that there will be no error in dosage.

Insulin vials are well marked according to type and strength and are kept under refrigeration to prevent spoilage.

The patient must be well instructed in the administration of insulin as he will be responsible for injecting himself after he leaves the hospital. Insulin is given as a subcutaneous injection. Teach the patient how to do this correctly. Rotate sites of injection (arms, thighs, abdomen). Diabetics who require insulin usually are on it for life. Rotating the sites of injection will allow for better absorption by the body and will prevent tissue breakdown. Patients must also be warned to maintain the sterility of their syringes whether they are disposable or nondisposable.

The medical service specialist has certain responsibilities regarding insulin therapy. He must ensure that it is given on time, otherwise complications could occur. He should know the type of insulin a patient is receiving, when it starts to act, when it reaches peak effect, and when action will stop. Insulin reaction is most likely to occur when insulin is at its peak of action.

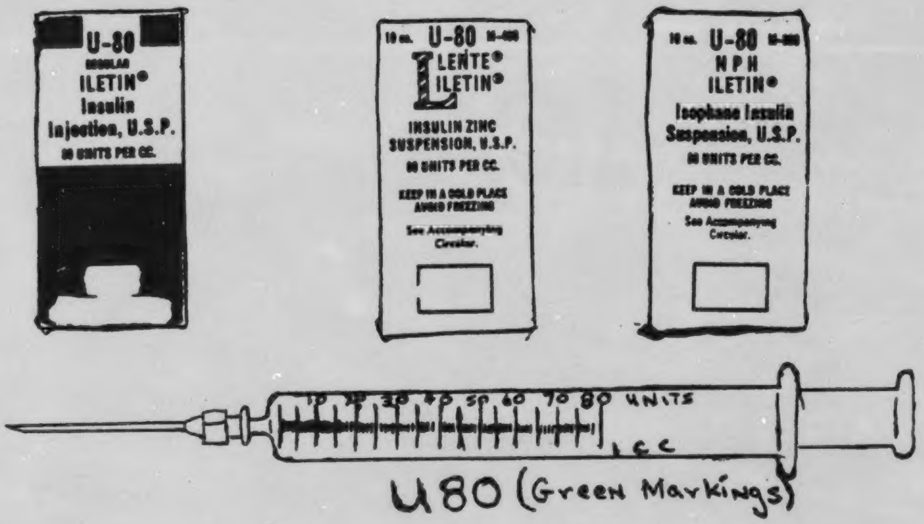

U-80
REGULAR
ILETIN®
Insulin
Injection, U.S.P.
80 UNITS PER CC.
10 cc. U-80
LENTE®
ILETIN®
INSULIN ZINC
SUSPENSION, U.S.P.
80 UNITS PER CC.
KEEP IN A COLD PLACE
AVOID FREEZING
See Accompanying Circular.
10 cc. U-80
NPH
ILETIN®
Isophane Insulin
Suspension, U.S.P.
80 UNITS PER CC.
KEEP IN A COLD PLACE
AVOID FREEZING
See Accompanying Circular.
10 20 30 40 50 60 70 80 UNITS
1 cc
U80 (Green Markings)

Illustration of insulin labels and syringes.

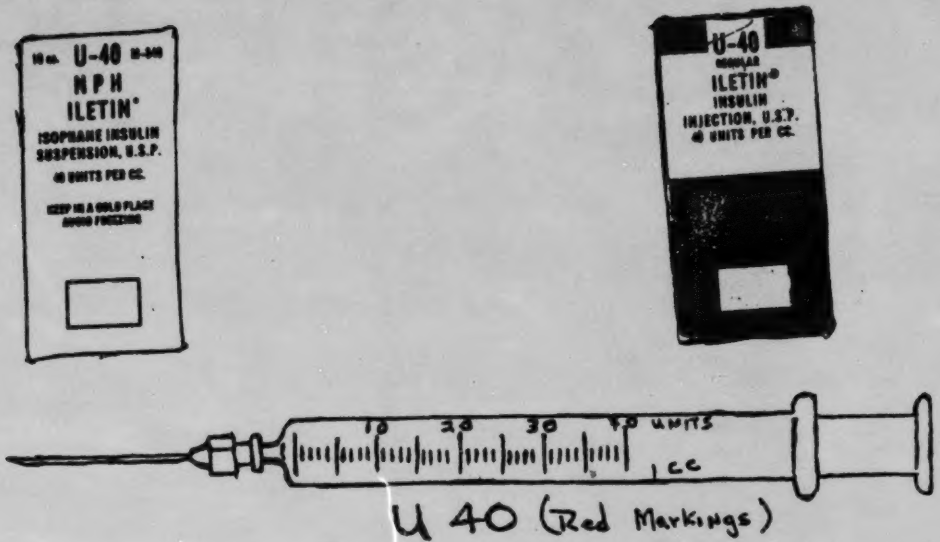


Illustration of insulin labels and syringes.

Oral Medication

Oral medications are able to lower the blood sugar level by causing the liver to decrease its output of glucose and by stimulating the pancreas to increase its secretion of insulin. These medications are used in milder cases of diabetes. While these medications can lower the blood sugar, they cannot metabolize carbohydrates, and they will have no effect at all if the pancreas is not secreting any insulin.

Maintain Health

Just as the patient must realize the importance of a properly controlled diet and the life-saving benefits of his daily dosage of insulin, he must also be made to realize the importance of keeping himself in a state of good health and maintaining good personal hypiene to prevent medical problems to which diabetes makes him prone.

Because of the condition of his blood, and possible circulatory problems, the diabetic patient is extremely prone to infection. Good personal hygiene guidelines must be followed by the patient. He should see a physician for cuts, corns, callouses, and blisters - no matter how small. He should keep his feet clean, dry and warm; wear clean, white socks as the dye in colored socks could cause infection. He must wear soft proper fitting shoes to avoid blisters. The diabetic patient must not go barefooted, use heating pads, or hot water bottles. Because of the dry skin condition that accompanies diabetes the patient might burn easily.

The diabetic is also more prone to vision problems. Diabetes is the third leading cause of blindness in this country. The diabetic patient should have an eye examination at least yearly. Prompt attention must be paid to any eye problems that arise between examinations.

Rehabilitation

The goal of rehabilitation is to restore the patient to an independent state of phylical, mental, and moral health through treatment and training.

In order for the medical service service specialist to properly teach the patient about his disease, he must first realize that the patient will have a major emotional adjustment problem. Being diagnosed as a diabetic comes as a shock to the patient, and he will need time to adjust to his new way of life. The patient should be encouraged to ask questions that will enable him to more fully understand his disease and its treatment. The specialist should also provide the patient with informational literature about diabetes.

The patient must be given a card to carry that contains information that identifies him as a diabetic, lists the name of his doctor, the type and dosage of his medication, and the signs and symptoms of diabetic complications. The reason for this is that in the past, diabetics did not always receive prompt medical aid because nobody knew what was wrong with the patient until he was examined by a doctor. The diabetic is often mistaken for a drunk.

Most of the care given to the diabetic is aimed at training him to take care of himself after he leaves the hospital. There are several areas the patient must become self-sufficient in.

First testing procedures are another item that the patient not only must become proficient at but also has to develop an almost automatic habit of testing his urine four times a day.

The diabetic patient must not only abide by his dietary restrictions, but must also learn to prepare his menus properly.

The patient must be taught to establish and maintain a program of good personal hygiene.

Lastly, the patient must be able to recognize in himself the signs and symptoms of the complications of diabetic coma and insulin shock. He must also learn the emergency treatment for both. Recognizing insulin shock and diabetic coma and obtaining prompt treatment may well mean the difference between life and death for the diabetic patient.

On the following page you will find listed in a comprehensive manner for easy reference, the causes, signs and symptoms, and emergency treatment of diabetic coma and insulin.

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COMPLICATIONS

Diabetic Coma	Insulin Shock

CAUSE

An insufficient amount of insulin.	An insufficient amount of sugar.

OCCURRENCE

Gradual onset after over eating or omitting medication.	Rapid onset after missing a meal or overdosing medication.

SIGNS AND SYMPTOMS

Dry, flushed skin.	Pale moist skin.
Weak, rapid pulse.	Full, bounding pulse.
Hypotension.	Normal blood pressure.
Fever.	Afebrile.
Fruity breath odor.	Mental confusion.
Dry mouth and intense thirst.	Absence of thirst (patient often drools).
Absence of hunger	Occasional hunger.
Dyspnea.	Rapid, shallow breathing.
Dim vision.	Double vision.
Abdominal pain.	Weakness.
Vomiting.	Dizziness.
Sugar and acetone in the urine.	No sugar or acetone in the urine.

EMERGENCY TREATMENT

Insulin	Glucose. If the patient is conscious give extra sweetened orange juice. If unconscious doctor may order 50% glucose I.V.

RESPONSE

Gradual (6-12 hours).	Rapid (5-10 minutes).

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THYROID GLAND DISORDERS

Definition of Hyperthyroidism

It is a condition in which the metabolic rate is increased by an overproduction of THYROXIN. If it secretes too much THYROXIN, the tissues burn oxygen rapidly. Hyperthyroidism is also called Graves' Disease.

The exact cause of this is not known, but it seems to develop as a result of physical or emotional strain, infections, or changes that take place during adolescence or pregnancy. Signs and Symptoms are:

- Weight loss
- Increased sweating
- Intolerence to heat
- Muscular weariness
- Nervousness
- Eyeballs bulge, in most cases (Exophthalmos)

Treatment

MEDICAL TREATMENT. Consists of giving antithyroid drugs to block the secretion of the thyroid hormone.

SURGICAL TREATMENT. Consists of removal of part of the thyroid. This is known as a thyroidectomy.

Definition of Hypothyroidism

It is a condition which occurs when a deficiency of the thyroid hormone slows down metabolic processes. There are two types of hypothyrodism, cretinism and myxedema.

CRETINISM. Cretinism is hypothyroidism in a child or infant. It results from either a congenital lack of a thyroid gland or insufficient iodine in the diet. The signs and symptoms are:

- Will not mature physically or mentally
- Skeletal growth is particularly retarded, but this condition can be reversed if thyroxine is given to the child

Treatment must be started within a few months after birth or the mental retardation will be permanent.

MYXEDEMA. Myxedema is hypothyroidism of the adult. It may be due to the removal of the thyroid gland or to decreased activity of the gland for some reason. Signs and symptoms are:

- Slowing of physical and mental activity
- Forgetfulness
- Chronic headache

Treatment is effective and consists of giving the patient either thyroxine or extracts of the gland itself.

Definition of Hypoparathyroidism

This is a hyposecretion of parathormone resulting in a condition known as tetany.

TETANY. The cause of tetany is a rapid drop in the concentration of calcium in the blood plasma. Signs and Symptoms are:

- Muscle cramps
- Extreme muscle irritability such as spasms and tremors
- Convulsions
- Loss of hair
- Coarsening of skin
- Brittle nails

Treatment. The symptoms may be relieved by an injection of I.V. caleum or parathyroid hormone.

EXERCISE 4.

Review questions for diabetic patient care. Complete prior to class. Check your answers on page 15.

1. Define diabetes mellitus.

2. What are the two major predisposing factors to diabetes?

3. From the list below, select the signs and symptoms of diabetes. (Circle the letters.)

   a. Weight gain

   b. Glycosuria

   c. Anuria

   d. Diuresis

   e. Hyperglycemia

   f. Weight loss

   g. Dysphagia

   h. Polydipsia

   i. Generalized weakness

4. What is the most important aspect of diabetic patient care? (Circle the correct response and tell why.)

   a. Personal hygiene

   b. Diet

   c. Yearly eye examinations

   d. Insulin injections

5. From the list below, circle the problem(s) to which diabetics are prone.
   a. Infection
   b. Circulatory disturbance
   c. Vision problems
   d. All of the above

6. Where are insulin vials stored?

7. List three dietary regulations the diabetic patient must follow.

8. What are three responsibilities of the medical service specialist in serving the diabetic patient's diet?

9. Match the signs and symptoms in column B with their respective condition in column A. Write the numbers of the correct signs and symptoms in the blank by the complication to which they correspond.

Column A	Column B
a. Insulin shock ____________________	1. Vomiting
b. Diabetic coma ____________________	2. Pale moist skin
	3. Weak rapid pulse
	4. Fruity breath odor
	5. Diplopia
	6. Absence of hunger
	7. Negative urine test results
	8. Absence of thirst

URINE TESTING

Diabetes mellitus is a metabolic (endocrine) disorder. This disorder has a marked influence on protein and fat metabolism. When insulin is diminished or absent, glucose is excreted in the urine. The body fat then breaks down at an excessive rate to supply glucose. This excessive fat metabolism gives rise to ketone bodies (acetone) which spill over into the urine. Your responsibility will be to test urine for this spillage of glucose and acetone. Learning this skill will help detect abnormal urine contents and prevent complications from occuring.

In order to insure an accurate urine test for glucose and acetone you must first have the patient void and discard his urine 30 minutes to one hour to the test. Then collect the specimen to be tested just before time to test the urine.

Next, gather the equipment needed to test the urine for sugar and acetone. This equipment consists of a clean dry test tube, one eye dropper, two containers of tap water, a paper towel, one bottle of Clinitest tablets for glucose testing, one bottle of acetone test tablets, color comparison charts for both the glucose and acetone test and the urine sample for testing.

Then, holding the dropper in an upright-position to insure drop uniformity place five drops of urine into the test tube. Rinse the eye dropper in one water container, get clean water from the second container and again, holding the dropper in an upright position place ten drops of water into the test tube. Remove one clinitest tablet for testing sugar from the bottle by shaking the tablet into the bottle cap (never touch the tablet with your hands as it contains caustic soda which could cause a severe burn, also, handling the tablet could result in inaccurate test results). Place the tablet into the test tube and, holding the test tube near the top (the tablet-solution reaction causes the bottom of the tube to become quite hot) watch while the complete reaction takes place. Fifteen seconds after the boiling action inside the test tube stops agitate the tube gently and compare the color of the urine with the sugar test color chart. If, however, during the reaction time and 15 second waiting period the colors rapidly "pass through" green, tan, and orange to a dark greenish-brown, repeat the test and if the "pass through" reoccurs record results as over 4+ without comparing to color test chart. If no "pass through" occurs record results according to color chart (negative, trace, 1+, 2+, 3+, or 4+ sugar. Never record results in %).

Next, remove an acetone test tablet from its bottle and place it on the paper towel. Draw some urine into the eye dropper and place one drop of urine on the test tablet. After thrity seconds compare the tablet with acetone test color chart and record the results as either negative, small, moderate, or large amount of acetone. A positive reading indicates that the body is burning up stored fats.

Clean up equipment (Clinitest tablets are poisonous - they must be kept out of the reach of children).

NOTE:

Prior to the laboratory hour you will be instructed to obtain your own urine specimen. Both the urine test for sugar and acetone will be demonstrated by the instructor. You will then perform the same procedure using all safety precautions on the urine sample you obtained prior to the start of the lab. The instructors will annotate your criterion checklist as you successfully complete each procedure.

You will assume the role of a medical service specialist explaining and demonstrating the procedures for "your patient." The "patient" will return the demonstration following your instructions.

You will automatically fail the procedure if you handle the tablets with your hands or if you do not hold the test tube near the top to avoid burns.

ANSWERS TO SW EXERCISES

Exercise 1.

(a) Pituitary

(b) Thyroid

(c) Parathyroid

(d) Adrenal

(e) Ovaries

(f) Testes

Exercise 2.

1. Adrenal

2. Blood and lymphatic systems

3. Pituitary. It has a regulating effect over other glands of the body.

4. Thyroxin

5. Parathormone

6. Estrogen

7. Regulate the functions of the other endocrine glands, controls lactation, constricts blood vessels to increase the blood pressure, stimulates the contraction of smooth muscles, secretes an antidiuretic which controls the volume of urine excreted by the kidneys.

8. Testosterone

9. It is responsible for the metabolization of sugars and starches.

10. It controls our reaction under stress by increasing the heart rate, blood pressure, and respirations. It also causes constriction of peripheral blood vessels.

Exercise 3.

1. 2

2. 3

3. 1

4. 5

5. 4

Exercise 4.

1. A disorder of carbohydrate metabolism resulting from inadequate production or utilization of insulin.

2. Heredity and obesity

3. b, d, e, f, g, h, i.

4. b. Some patients can be controlled without insulin but never without proper diet.

5. d

6. In a refrigerator

7. The patient must eat all of his food, he should eat at regular intervals at approximately the same time every day. Foods not eaten must be replaced. NO EXTRA SUGAR.

8. Serve the meals on time. Check trays for proper food. Encourage patient to eat all of his food. Report the type and amount of food not eaten.

9. a. 2, 5, 7, 8.

   b. 1, 3, 4, 6.

PROCEDURE FOR TESTING URINE FOR SUGAR

Test Urine for Sugar

1. Ensure that patient has voided and discarded urine within the last 30 minutes to one hour.
2. Collect specimen in clear receptacle.
3. Use a clean dry test tube.
4. Place five drops of urine in test tube.
5. Rinse dropper with water.
6. Place 10 drops of water in test tube.
7. Place one Clinitest tablet in test tube.
8. Do not handle tablet with bare hands.
9. Wait 15 seconds before reading results.
10. If "pass through" occurs record now as 4+, otherwise go on to step 11.
11. Use sugar test color chart to report results accurately (neg-Trace-(1+)-(2+) (3+)-(4+).
12. Clean equipment.
13. Wash hands.

PROCEDURE FOR TESTING URINE FOR ACETONE

Test Urine for Acetone

1. Use one acetone test tablet.
2. Place tablet on clean, dry paper towel.
3. Do not handle tablet with bare hands.
4. Place one drop of urine on tablet.
5. Wait 30 seconds before reading results.
6. Use color chart to report results accurately (small, moderate, large, or negative).
7. Clean equipment.

STUDY GUIDE AND WORKBOOK 3ABR90230-III-5

DEPARTMENT OF NURSING

MEDICAL SERVICE SPECIALIST

NURSING CARE PLANNING

July 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
SHEPPARD AIR FORCE BASE, TEXAS

Designed For ATC Course Use

DO NOT USE ON THE JOB

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

SW 3ABR90230-III-5
July 1975

NURSING CARE PLANNING

OBJECTIVES

a. Select the basic terms and principles related to nursing care planning.

b. Given a case study and with instructor guidance, identify and record a minimum of six basic patient needs and nursing approaches.

INTRODUCTION

The Nursing Care Plan is a guide developed specifically for an individual patient concerning the care he is currently being given. It is written by the nursing personnel to direct the team members in providing the best individualized nursing care to patients.

It is important to you because it enables you to become acquainted with the patient and his background, even if you have never cared for him before. You will find that you can approach your patient with more self-confidence because you already know about his likes and dislikes, the way his care has been and should be given, and are alerted to the observations you should watch for in giving care.

It is important to you because, as a team member, you will assist in its preparation. Your observations concerning the patient's response to his illness are an important source of information used in preparing the plan. You will also have the opportunity to develop and suggest solutions to nursing problems.

This lesson will introduce you to an effective method of planning patient care and demonstrate the ease in which usuable Nursing Care Plans are constructed.

INFORMATION

TERMINOLOGY

_____ 1. Nursing Care Planning	a. A written documentation of a patient's specific needs and/or problems and suggested nursing approaches for solving these problems or meeting these needs.
_____ 2. Need	b. Nursing care that is designed for one particular individual because of his specific needs and/or problems.
_____ 3. Problem	c. A difficulty which the patient is in fact currently experiencing.
_____ 4. Actual Problem	d. An unmet need. A patient's concern or difficulty.

This supersedes SW 3ABR90230-III-2, December 1974

_____ 5. Potential Problem	e. Meeting all the needs of a patient.
_____ 6. Total Patient Care	f. A difficulty which a patient is likely to experience due to certain existing facts.
_____ 7. Patient Centered Care	g. Something that is necessary for survival or function.
_____ 8. Nursing Care	h. The systematic assessment and identification of patient needs and/or problems and nursing approaches to alleviate the need or to solve the problem.

PURPOSES OF NURSING CARE PLANNING

To Provide Patient-Centered Care

Nursing care planning is based on the belief that each patient is different; therefore, his nursing care must be personalized if it is to be appropriate for him. When we care for a patient who has emphysema we are not caring for the emphysema, but for the patient who happens to have emphysema. We must be able to focus attention on special needs and problems of the patient and ultimately suggest possible solutions to these needs or problems.

To Plan Care

Once the patient's problems or needs have been identified, the next step is to set priorities of attention and care. Under the best of circumstances we cannot possibly meet all of the patient's needs; in some situations we can meet only the most urgent ones for each patient. Our prime responsibility in this area is to select those problems which are most relevant to the patient's well-being.

To Provide Continuity Of Care

The Nursing Care Plan is essential to insure not only individualized nursing care, but also continuity of care. Without this planning the patient experiences gaps in his care and occasionally irritating duplications. All of us must be working toward the same goal and using similar approaches to meet our patient's needs.

To Communicate

An essential component of nursing care is the consistent communication of the details of this planned care to those who will give it. Nursing care plans offer a systematic written means of conveying needs from one person to another on the same shift, from personnel of one shift to another, from one ward or service to another, and from pre to post-treatment status.

To Evaluate Nursing Care

Interpreting how the patient responds to us, and the care we prescribe and give is a very important segment of our evaluation. In evaluating the care given to our patient we must be aware of changes in the patient's problems that necessitate different nursing approaches. We, as human beings, never remain the same. Therefore, our nursing care plans cannot be unchangeable and still remain effective. When the patient's response changes or his situation changes, so then do his problems and priorities change. In addition, our initial perception of a problem may have been incorrect and a new approach may be needed.

PREPARING THE NURSING CARE PLAN

Identify the Needs and Problems

Because we are interested in the "total care" of the individual, we must be able to identify his particular needs or problems. There may be certain problems which are common to all patients who have a particular illness or injury, but there are also many differences. The Nursing Care Plan grows out of a recognition that every patient is a unique individual who has individual needs or problems that differ from every other patient.

We have classified these needs or problems into three main categories with specific examples under each heading. The examples are by no means all-inclusive. As you read them, write in any additional ones you think of to help clarify them for you.

1. Physical Needs.

Motor Ability. Posture, position, exercise, ability to turn self or sit up in bed, move self from bed to chair, move about in room, ambulate freely, self-care.

Elimination. Bowel and bladder care, usual patterns of elimination, related problems and deviations.

Sleep and Rest. Habits relating to bedtime activities, daytime rest periods, time of rising.

Nutrition. Regular or special diets, food likes and dislikes, dental or eating problems, inability to take fluids or food.

Sensory. Problems related to vision, hearing, speech, touch, smell, level of consciousness.

Oxygen. Maintaining an open airway, mechanical aids to respiration.

2. Emotional, Social and Spiritual Needs.

Emotional. Attitudes, fears, anxieties, apprehension, depression, patterns of dependency or independency.

Social. Personal habits, ability to communicate, education, age, family, recreation, cultural patterns relating to illness.

Spiritual. Religious support from nurse, family or clergyman.

3. Economic and Vocational Needs.

Economic. Family's financial status and burdens encountered by illness, need for babysitter or household help.

Vocational. Discharge plans, anticipated placement, i.e., home, hospital, return to duty or need for new occupation.

THE NURSING CARE PLANNING PROCESS

Nursing involves helping a patient in accomplishing those activities which are necessary to maintain or to regain good health. This assistance is directed toward helping the individual maintain or to regain independence as soon as possible. In order to accomplish those duties involved in giving nursing care, nurses and other personnel giving care have always planned -- either formally or informally. However, in order to give total patient center care, refined, organized conscious planning is a real need. How is this planning done? What are the steps involved in this process? What is done first? These questions are still being asked and answered by nurse educators, nurse practitioner, and others concerned with nursing care. Different authors may give varying numbers of steps in planning care depending on many things including beliefs about the planning process. For this class, five basic steps in patient care planning will be identified.

NOTES:

COLLECTION OF INFORMATION

Nursing Care Planning should begin with our first patient contact as we seek information about how our patient is responding to his illness. This information gathering process can take place with or without prior knowledge of the patient, but to complete the plan we must meet and know our patient. There are a number of sources of information about the patient.

The Patient

A great deal of information about a patient's needs and how they can be met will be gained from the patient himself. We may not always be able to fulfill a need directed to us by the patient. However, an explanation as to why or why not helps to put the patient's mind at rest. With patients who are reluctant to verbalize we will discover most of their needs from observation and other resources.

The Family

The discovery of numerous needs may come from information provided by the family. In some cases, especially with young children, the greatest deal of information may result from conversations with the family.

Observation by Personnel

One of the most important methods of gathering information is by describing or detailing what we observe. As in any kind of nursing care, what we observe and how we interpret these observations remain uppermost. Our impressions or observations must be sorted into meaningful patterns in order to see the total picture of our patient. In the process of caring for our patient we have the opportunity to observe our patient's behavior and appearance and to pick up cues that may identify other problems or needs which the patient does not wish to verbalize.

The Medical Records

When these are available we are able to receive certain information prior to our first contact with the patient.

Identify the Immediate Needs

We must be able to identify immediate needs before we begin to work on long term goals. Some examples of immediate needs may be to control and help the patient cope with some particular pain, the necessity of rest, or maintaining an open airway. These needs are always uppermost in the patient's mind and must be dealt with as soon as possible.

NOTES:

IDENTIFYING PROBLEMS

All information or data gathered about a patient can be used when identifying problems. Some problems are obvious. The patient who has a bedsore has an obvious problem. The patient who is anxious has a problem too. But, his anxiousness may be the symptom of a problem. Thus it is good to look at all the information available and try to identify what really is the problem. This process of taking a look at all available data and identifying the problem or problems may be done in the team conference. It is important to remember that all problems or needs need not be written on the Nursing Care Plan. Some difficulties and/or concerns which the patient will have are to be expected depending on the diagnosis and condition. Additionally, some of the problems and/or needs are being taken care of very well by the doctor's orders or regular routines, (e.g., the patient with a broken leg has pain at intervals but is relieved by medications which have been ordered by the physician).

EXAMPLES:

NOTES:

PLANNING NURSING APPROACHES

Planning nursing approaches to solve problems or to meet needs is the next step. This does not mean simply planning to carry out the physician's orders. Through experience and study we learn that certain actions will solve certain problems. When we plan nursing approaches, we are specifically identifying actions we feel will help to solve a patients problem. The patient with a bedsore will probably be helped by putting a sheepskin under him in bed, turn him every two hours, message other bony areas each time he is turned and give him good skin care. We must state what we mean by "good skin care" for this patient. How often do we wash the area? What do we wash it with? Is it to be left dry? Etc.

EXAMPLES:

NOTES:

IMPLEMENTATION

This is the carrying out or putting into action step. This involves the patient and all of those taking care of him. All Nursing Service personnel will carry out tasks for or with the patient as directed by the nurse in charge. The nurse in charge uses the written Nursing Care Plan as a guide. The patient is expected to work or to cooperate with the staff in the implementation of his or her plan of care.

NOTES:

EVALUATION

This step is the process of finding out whether the Nursing Care Approaches were effective or not. Sometimes this is easy to determine, at other times it is not. Those who work with the patient are to observe, report and record the patient's response to his care. If the problem is not being solved, it may be time to reconsider the information and/or approaches.

NOTES:

DOCUMENTATION OF NEEDS AND/OR PROBLEMS AND NURSING APPROACHES

Nursing care plans are written documentations telling all members of the ward staff and other hospital personnel about the specific problems or needs of an individual patient, as well as the suggested approaches or solutions to these problems.

All members of the nursing staff contribute to the plan of care for the patients on their ward. Entries should be brief, specific and understandable to all who read them. Use the principles of effective written communication!!! Do you remember them from Block I?? What three questions MUST you ask yourself about a written communication?

Always complete the information section of the nursing care plan. The diagnosis, diet,religion and other information which gives a brief "picture" of the patient. The entries made about the patient's problems and needs are a "close-up" view of the individual. The suggested approaches or solutions to the patient's problems complete the picture of an individualized plan of nursing care for a particular patient.

A patient's needs or problems may be divided into three main categories with several areas to be considered in each category. As the plan of care is written, think of the categories. Ask yourself what specific needs this patient has. If pain is a problem, where is his pain; what caused it? How can we solve this problem? If nutrition is the problem, why isn't the patient eating? Does he dislike the food? Does he have dental problems? Poor eating habits? How can we solve this problem?

State the specific problem in the proper column of the NCP and the solution opposite it in the next column.

Problem/Needs	Approach/Solution
Has poor teeth and cannot eat regular diet. Has many food dislikes including potatoes, green vegetables, salads and milk.	a. Have dietitian see patient about likes and dislikes. b. Check for dental consult if possible. c. Cut up food if necessary as long as right hand hurts. d. Be sure tray is attractively served with foods he dislikes.

Remember you are looking for nursing problems and solutions. Do not recopy doctor's orders as the solution to a problem. There are solutions to many problems that you as a Medical Service Specialist can solve by using basic nursing techniques. Employ the one you have already learned in the practice nursing care plans at the end of this lesson.

Entries are made on the NCP only as problems and needs change. It is not necessary to recopy entries daily. When the problem has been solved or an entry is no longer current a single line is drawn through that entry.

It's time for you to practice using the basic nursing techniques you have learned to plan for a patient's care.

In the early stages of your career it is possible for you to identify problems, but not necessarily know the best solution. Since a nursing care plan is a team effort involving all of the nursing staff on a ward, consult your co-workers. Use the team conference as a place to present the problem so that everyone may help to find the best nursing approach or solution for this patient's problems. This is a particularly good time to discuss and plan short and long term goals for the patient who has a chronic illness and must change his life style.

Study the vignette on Sgt Peltz and the resulting nursing care plan for the patient's immediate care.

THE TEAM CONFERENCE

Team Nursing involves the assigning of a group of nursing service personnel to care for a number of patients for a period of time. The number of personnel and patients may vary for a number of reasons. The team leader is usually a nurse who is responsible for making team member assignments. This nurse is also responsible for the care given to patients assigned to the team for care. Planning for and conducting the team conference is usually done by the team leader. The team conference whose central interest is the patient and his plan of care not only enhances better patient care but also helps each team member to grow educationally.

PURPOSES OF THE TEAM CONFERENCE include:

Planning Patient Care

Coordinating Resources

Promoting Cooperation

Questions

1. What are the purposes for constructing a Nursing Care Plan?

2. Who is involved in the construction of a Nursing Care Plan?

3. What is "continuity of care?"

4. We stated that a main purpose of the Nursing Care Plan was to communicate -- with whom are we communicating?

5. How often do we evaluate the approaches we are using in the Nursing Care Plan?

6. Give two examples of physical needs.

7. By what four principal means do we gather information?

8. If the patient is reluctant to talk about himself, our most important sources of information will be:

9. In constructing the Nursing Care Plan, with whom are we coordinating?

10. Name five potential members of the health care team.

11. Three questions we must ask ourselves about written communications are:

12. How do you indicate an entry that is no longer current?

REFERENCES

1. Kron, Thora, *Nursing Team Leadership*, pp. 132-145.
2. Little, Dolores E. and Carnevali, Doris, *Nursing Care Planning*, pp. 105-160.

SAMPLE VIGNETTE

Gregory Peltz, a 40 year old TSgt., was admitted two days ago to the hospital emergency room because he could not sleep. He had a nearly constant, dry, hacking cough, a temperature of 104.8, shallow, rapid respirations, and pale almost cyanotic color. He complained that breathing was painful. The physician's diagnosis was pneumonia. The patient was admitted to the Medical Service of the hospital. On the way to the ward, the Medical Service Specialist noted that TSgt Peltz was anxious. Between coughs he asked if anyone had called his wife. He said that she was at home with their four children. He had never been admitted to the hospital before and now so many details of his everyday responsibilities seemed to be rushing through his mind. As the specialist helped him into bed, he noticed that his new patient seemed weak and very tired.

DOCTORS ORDERS

1. Bedrest
2. TPR and B/P q4h
3. Full liquid diet
4. Force fluids to 3000 cc/day
5. Procaine Penicillin 600,000 u. I.M. Bid
6. Steam inhalation X 20 min. q2h while awake
7. Robitussin 1 tsp. q4h for cough
8. Aspirin 600 mg. q4h for temp over 101 or chest pain
9. Oxygen 5 lpm by nasal cannula prn for dyspnea
10. Chest x-ray, misc. blood tests in a.m.

Observations regarding TSgt Peltz on the first hospital day

a. Patient has not been drinking the required amount of fluids.

b. Patient found up out of bed

c. Patient refuses to ring his bell for bed pan.

Observations regarding TSgt Peltz on the second hospital day

a. Patient stated he had not slept well the previous night, and can't get any sleep during the day time.

b. Patient's cannula found on bedside table several times.

NOTES:

INSTRUCTIONS

1. AF Form 585 will be maintained in a seperate Nurse's Book Unit.
2. AF Form 585 will be initiated by the nurse who admits the patient. It will be maintained on all seriously ill, major surgery, pediatric, and patients with special nursing needs or problems.
3. Initial notations should include date, time of admission, known nursing needs or problems, and suggested approach or solution.
4. All nursing service personnel on all tours of duty will further develop the form.
5. All nursing service personnel may make pertinent entries on this form.
6. Draw a line through an entry when no longer current or applicable.
7. AF Form 585 is not a permanent record.

AF FORM SEP 64 585

NURSING CARE PLAN

DATE	SPECIAL NEEDS OR PROBLEMS	APPROACH OR SOLUTION
10 Jun 75	Admitted	
	1. Anxious about being hospitalized and diagnosis	1a. Assign nurse to explain diagnosis. Have nurse next shift reinforce explanation.
		b. Discuss proposed treatments and schedule of activities prior to initiation. Keep pt. informed.
		c. Support and reassure pt. by maintaining a calm, confident, unhurried appearance.

NURSING CARE PLAN (Continued)

DATE	SPECIAL NEEDS OR PROBLEMS	APPROACH OR SOLUTION
	2. Possible worry - about personal problems related to home and job.	2a. Listen - allow patient to verbalize his concerns. b. Encourage communications by phone. c. Inform about visiting hours.
	3. Generally tired and weak.	3a. Provide assistance to prevent overtiring. b. Organize treatments to insure longer rest periods. c. Allow rest periods after meals and bath. d. Visit at frequent intervals.

IDENTIFICATION - PATIENT

SERVICE: ☐ MEDICAL ☐ SURGICAL ☐ OB GYN ☐ OTHER

BATH: ☐ BED ☐ TUB ☐ SHOWER

DATE OF BIRTH

RELIGION

DIET: ☐ REGULAR ☐ OTHER SPECIFY

ME OF PATIENT (last, first, middle initial)

BAND NUMBER 15

DIAGNOSIS

INSTRUCTIONS

1. AF Form 585 will be maintained in a separate Nurse's Book Unit.
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7. AF Form 585 is not a permanent record.

AF FORM SEP 68 585

NURSING CARE PLAN

DATE	SPECIAL NEEDS OR PROBLEMS	APPROACH OR SOLUTION

180

NURSING CARE PLAN (Continued)

DATE	SPECIAL NEEDS OR PROBLEMS	APPROACH OR SOLUTION

IDENTIFICATION OF PATIENT

SERVICE
☐ MEDICAL
☐ SURGICAL
☐ OB-GYN
OTHER

BATH
☐ BED
☐ TUB
☐ SHOWER

DATE OF BIRTH

RELIGION

DIET
☐ REGULAR
☐ OTHER
SPECIFY

NAME OF PATIENT (*Last, first, middle initial*)

WARD NUMBER

DIAGNOSIS

ATC-SHEPPARD AFB TEX. 78-1666

STUDY GUIDE AND WORKBOOK 3ABR90230-III-6

DEPARTMENT OF NURSING

MEDICAL SERVICE SPECIALIST

OUTPATIENT AND EMERGENCY SERVICES

June 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
SHEPPARD AIR FORCE BASE, TEXAS

Designed For ATC Course Use

DO NOT USE ON THE JOB

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

SW 3ABR90230-III-6
June 1975

OUTPATIENT AND EMERGENCY SERVICES

OBJECTIVES

Select facts and principles related to the role of the medical service specialist in USAF clinics.

Select facts and principles related to the role of the MSS in emergency treatment of patients.

INTRODUCTION

Every hospital has emergency services. Emergencies call for prompt and accurate recognition of signs and symptoms and the ability to take appropriate nursing measures as a result of these observations. It is essential that the specialist assigned to this section become familiar with all of the equipment, know how it functions and when it should be used.

As a student, you will not be exposed to all the equipment that might be used due to the different requirements of the base to which you will be assigned and the environmental influences encountered. Though supplies and equipment may vary somewhat, the nursing principles you have learned throughout this course will not.

The family plays a significant role during a time of crisis and part of your lesson will deal with your role in providing aid to families.

Since some of you will be assigned to clinics, you will get a glimpse of the responsibilities of the specialist who works in that area.

Finally, since we have only a limited amount of time in this lesson we will discuss the indepth care necessary for wounds, shocks, and hemorrhage in later lessons.

INFORMATION

TYPES OF CLINICS

Clinics in the military provide care and services which may be compared with the variety of doctor's office in civilian life. There are several specialty clinics within the framework of hospitals that you should be acquainted with.

General Therapy Clinic

General Therapy Clinic handles nonspecialty conditions, such as minor upper respiratory infections, short-term gastro-intestinal diseases and minor ailments. It is a general screening area for the specialty clinics; when patients are examined who need care of a more definitive nature, they are referred elsewhere. Here you will learn to prepare records, screen patients for specialty clinics, obtain and prepare specimens for laboratory analysis, and direct patients to the various clinics for evaluation and treatment.

Medical Clinic

This clinic deals with patients who have problems or diseases of a medical nature. Several types of diagnostic procedures are performed in a medical clinic. Among them are gastroscopies, sigmoidoscopies, and proctoscopies. These are procedures you will be asked to assist with and will become familiar with if you work there.

This supersedes SW 3ABR90230-III-5, Jan [illegible] 1975

Surgical Clinic

Another of the frequently used clinics is the surgical clinic. Many diseases and conditions which cannot be cured medically often can be surgically cured. Most surgical procedures require hospitalization, but many minor procedures can be handled in a surgical clinic. Some of these procedures are removal of warts, suture removal, or post-surgical follow-up.

Pediatric Clinic

This clinic provides care and treatment to all children under the age of twelve. It is one of the busiest clinics in the hospital and to many, a very rewarding place in which to work. Procedures vary from facility to facility, but in general, you would be required to assist the doctor by taking TPRs and BPs, assisting with examinations, and following up on appointments.

OB-Gyn Clinic

Normally, only WAF are assigned to this clinic. A very important clinic, and also a very busy one, it handles all obsterical-gynecological conditions. If you are assigned to this clinic, you will learn how to drape patients for pelvic examination and treatment, instruct mothers-to-be, and obtain specimens for analysis.

EENT Clinic

Conditions pertaining to the eyes, ears, nose, and throat are followed here. Many seemingly complex diagnostic and therapeutic instruments may be found here which you will be required to operate. Included in these are hearing test, machines, opthalmological test equipment, slit-lamps, and vision testers.

Orthopedic Clinic

Problems and conditions of the bones and joints are treated in this clinic. You may be operating traction devices, applying casts and braces, or assisting the orthopedic physician in many procedures related to the bones and joints.

Urology Clinic

Urology clinic is specifically concerned with diseases of the kidney, ureters, bladder, and external genitalia. There will be medical as well as surgical patients cared for here.

Dermatology Clinic

As the term suggests, the skin and its related organs are treated in the dermatology clinic. You may be required to perform many tests leading to diagnosis and treatment of skin conditions. Many such conditions require long-term care and could include such tasks for you to perform as skin testing or patient teaching.

As you can see, clinical services are varied and complex. While you cannot be expected to learn the procedures pertaining to all clinics, you would have to learn all the aspects of that clinic to which you may be assigned. You will be playing an extremely important role in your patient's care and return to good health.

ASSISTING WITH PROCEDURES

Each Air Force clinic has certain set procedures for diagnosis and treatment. It will be necessary, therefore, that you become fully aware of what these procedures are and how to prepare and perform each one. It would be impossible to give a complete description of each procedure, but certain principles pertaining to them remain the same.

1. Be sure that you have set up the right equipment for the right procedure. The old adage, "Time is of the essence," is especially true in the clinic setting. A doctor's time is limited with each patient according to the total number of patients he must see that day. You must have all the equipment ready for the procedure before it is performed. This will include seeing that the proper forms including lab slips, consultation forms, or pathology requests are properly filled out; that all sterile packs are, in fact, sterile; that the necessary equipment, drape sheets, specimen containers, or gloves are available for immediate use.

2. Readiness is vital to patient comfort. The longer a patient must wait for a procedure may seem minor to you, it could be of great significance to the patient. In addition, the patient's time is valuable and he should not be kept needlessly waiting.

3. Explain the procedure to the patient. Always remember that you are more familiar with the examinations and treatments than the patient is. People exhibit different reactions and behaviors to situations involving their own health and bodies. Take a little time to talk and explain procedures to your patient before performing them. Your attitude and actions are of the utmost importance when dealing with a person who is apprehensive.

COMMUNICATIVE SKILLS

Communicative skills are not inborn, they must be acquired. You have to learn the alphabet before you could read; draw the symbols before you could write; and make a combination of symbols into words before you could communicate a thought to another person in writing, Each communicative process develops in a similar manner and requires practice to become meaningful.

Communicative skills are essential in the clinic area for much of your time will be spent in face-to-face or telephone communication with your patient. You need to be sure the message you convey is the right one.

Speaking is one of our basic forms of communication. All of us know how to communicate through speech, but the tone of voice can convey a meaning all its own. If your voice is surly, you imply this kind of attitude. A pleasant, courteous speaking voice is a great necessity when obtaining information on the telephone. A patient often forms his first impression of a hospital over the telephone. If your voice imples that you are disinterested, that you are too busy and harrassed to listen to the problem on the other end of the line, you are creating an impression that you care little about the patient's problems. Listening is an important part of the communication process that should not be overlooked. Telephone and face to face communication may make or break a patient/specialist relationship. You will often be the first person that a patient sees or talks to. Treat him as you would like to be treated.

Gestures and facial expression are almost inseparable. It is practically impossible to convey tenderness through the hands without an appropriate facial expression. Have you ever noticed how a small child will watch your face as you are playing with him or starting to pick him up? He is trying to determine if you are sincere. Your gestures and facial expression can tell a person what you are thinking just as surely as if you told him outright. Try to let the patient know that you are concerned with him and his problem by using appropriate gestures and expressions of your face. In turn, use your powers of observation to interpret the message the patient is conveying with his gestures and expression.

Written communications are vital to the patient. The wrong information, misspelled words, the wrong name or telephone number, or wrong notation in the patient's chart are some of the common mistakes that cause unnecessary hardship to the patient's well being. You may be called upon to write in the patient's chart, to send messages between clinics and wards, or to doctors and nurses. You have a responsibility to be clear and accurate in your written communication.

As you can see, effective communication depends on a variety of skills. Enough cannot be said about the importance of the role of the medical service specialist as a communicator. Your every action and word is vital in maintaining positive patient relationships. It could mean the difference between success and failure in patient care. You are charged with the responsibility of providing the support and care of your patients to the best of your ability. In turn, you will receive much satisfaction when you hear the patient say, "I had the best care I have ever received anywhere when I went to the clinic.

Questions

1. What is the purpose of the General Therapy Clinic?

2. A patient is coming to medical clinic to have a gastroscopy. What can you do as a specialist to ensure maximum patient comfort?

3. State three important considerations when speaking to a patient over the telephone.

   a.

   b.

   c.

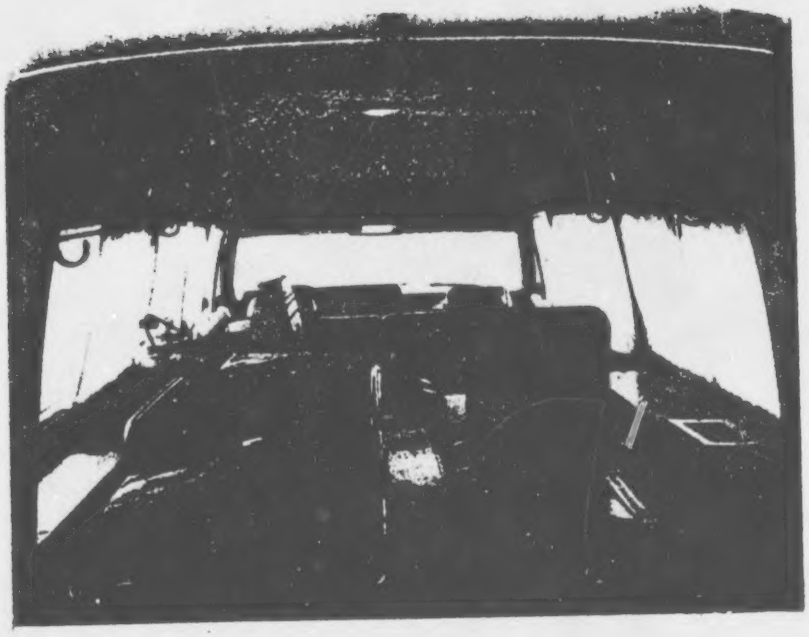
4. Given an example of a gesture you have observed which contradicted the meaning of the verbal message someone was trying to convey.

AMBULANCES AND RELATED EQUIPMENT

The Ambulance

Ambulances vary from the custom-designed metropolitan ambulance to the cracker-box ambulance. What works best in one area may not be suitable in another. A good ambulance is the one which best meets the needs of the patient, ensures his safety and is best adapted to the environment. Whatever type of ambulance is used, the specialist must have an exacting knowledge of its equipment and use if he is to be effective in an emergency situation.

In many places both men and women in emergency services are required to obtain a military license to drive the ambulance. Once the specialist is qualified and licensed to drive, he assumes the responsibility for safe driving practices. The ambulance should never exceed the safe speed, which is generally that speed in which the vehicle is under control by the driver. For all concerned, the important thing is to reach the scene safely and to return safely. From a medical standpoint, the majority of emergency cases could be transported safely with the ambulance complying with all traffic regulations. Speeding will rarely benefit an injured patient. Consideration for your personal safety and for the public safety is much more important than taking chances with extra speed. Each base will have its own regulations concerning use of the siren and red light which you must comply with. Be sure to keep your seat belt fastened!



Litters

Litters will vary depending upon the type of ambulance used. The metropolitan has a modern type which can assume different positions and roll on wheels. The field ambulance uses the type shown in your class on aero-medical evacuation. No matter which type is used, there are important safety factors to remember. The patient must be secured safely to the litter before he is moved and the litter must be locked in the ambulance uses the type shown in your class on aero-medical evacuation. No matter which type is used, there are important safety factors to remember. The patient must be secured safely to the litter before he is moved and the litter must be locked in the ambulance so that the patient does not get injured in case of accident.

The Radio

All emergency vehicles are equipped with radio contact to the hospital. In this way the hospital can keep the driver informed of the condition of the patient enroute to the scene; the driver can summon additional help or advice enroute to the hospital; and the the driver can alert emergency room personnel of the expected arrival and condition of the patient. Messages sent should be brief and to the point. Great care should be exercised in what is said over the radio. It is not designed for idle chatter. The phonetic alphabet and certain standard phrases are used and it will be necessary for you to learn them if you are assigned to the section.

Mechanical Aids to Respiration

AIRWAYS. An artificial airway is inserted into the patient's mouth to hold the tongue forward and ensure unobstructed breathing through the hollow opening. Airways are made of plastic, hard or soft rubber, and metal. Various sizes are available for children and adults. The airway should be used if the rescuer is unable to maintain an open airway by proper positioning of the head and body. It should not be used on the conscious patient. The two-way (S-shaped airway) for mouth-to-mouth resuscitation should be available.

RESUSCITATORS. An automatic resuscitator is part of the ambulance equipment. Ambulance personnel should have a full and comprehensive understanding of the particular type that is used. It must also be kept in operating condition at all times and readily available.

A manually-operated resuscitator is also carried. The most common one used in the military is the Ambu. This is a self-inflating rubber bag connected to a face-mask. After the airway is clear, the bag is squeezed at regular intervals passing air into the lungs. It provides positive pressure for the patient who has stopped breathing, and be used to assist breathing in the dyspneic patient. There is a special connection which provides on inlet for oxygen. It is advantageous because it is portable, small, compact, and dependable. However, it cannot be used to give moisture or medication.

When using resuscitators it is important to maintain an open airway, a tight seal and to watch the patient for signs of vomiting.

OXYGEN EQUIPMENT. At least one small high pressure tank is carried. The duration is usually 15 minutes per tank. Depending on the nature of illness of the patient and the area to be traveled, more than one tank may be required. The safe practices you learned in the use of oxygen equipment remains essential, as well as the indications for its use. Remember, inhalation is not a substitute for resuscitation.

SUCTION. Many modern ambulances have built-in provision for suctioning. In addition, some automatic resuscitators are so equipped. Remember, if your ambulance does not have built-in capabilities, the Ambu Suction can be used. Various sizes of tubing must be available for children and adults.

The Physician's Bag

The physician's bag contains diagnostic equipment, needles, syringes, emergency drugs, bandages, dressing minor surgical instruments and various other first aid essentials. You will need to familiarize yourself with all of its contents. Medications are given by the specialist only when the doctor authorizes them. Narcotics are carried and given only by the doctor or nurse.

Intravenous Fluids

The types of intravenous fluids carried will vary at each installation. At Sheppard Hospital, Dextran (a blood substitute) is the IV solution of choice, although additional fluids are available.

Splints

All fractures must be splinted before moving to minimize damage to muscles, nerves, and blood vessels; prevent open fractures; reduce pain and bleeding; and to avoid pressure on blood vessels. Various types are available including wire, wood, pneumatic, and universal splints. Care should be exercised in the use of the air splints to avoid over-inflation which can cause serious damage to the extremity by impairing blood circulation.

Tracheostomy Set

The tracheostomy set may be a required or optional piece of equipment carried on special runs. The pack is normally kept in the emergency room. In cases where a tracheostomy is anticipated, a doctor will be in attendance. This procedure is done when all else fails. There is danger of trauma and hemmorrhage involved, and should never be attempted by someone who does not know the procedure.

Precipitation Pack (OB)

The precipitation pack is normally kept in the emergency room, and taken out only when needed. Become familiar with the contents of the pack in your hospital. In an OB emergency, the doctor will normally be in attendance. Additional information about emergency childbirth will be presented later in the lesson.

Restraints

Restrains are carried and used only when the patient cannot be controlled any other way. Review the indications for their use, their application and safety precautions.

Questions

1. Sgt Smith has severe chest pain and you want to get him to the hospital as rapidly as possible. What will govern the rate of speed you will use?

2. After placing Sgt Smith on a litter, what safety precaution is necessary before moving him?

3. What safety precaution is necessary while transporting Sgt Smith in the ambulance?

4. You are going to the scene of an accident. State three reasons why the ambulance radio might be used.

a.

b.

c.

5. At the scene of an accident, you check for airway blockage. What are some common symptoms of an obstructed airway?

6. You have cleared a victim's airway, but breathing does not resume. Using the Ambu, you begin resuscitation, observing three principles:

a.

b.

c.

7. You have to make an ambulance run 22 minutes away from the hospital. The patient is in respiratory distress and requires oxygen. How many oxygen tanks will you carry?

8. Amn Thomas fractured his tibia. Why would you immobilize it before moving him?

9. You have placed an air splint on Amn Jones. What safety precaution is necessary?

10. What are the hazards of preforming a tracheostomy?

11. You are on your way to pick up a mentally disturbed patient. Under what conditions would you use restraints?

AID TO FAMILIES

When a member of the family faces an emergency situation, the whole family is affected. Yet, all too often, these family members are easily forgotten or left out. Their need is not always so obvious, but it may be great. The specialist can provide much support this time of crisis.

A universal problem is one of fear, regardless of the seriousness of the illness or injury. There may be the fear of death, loneliness and insecurity. Will the loved one live or die? Will the husband or wife be left alone? Will the wage-earner be able to return to work?

Sometimes things happen so fast, the family may be left confused and bewildered, not knowing what happened or what to do next. The situation at hand is overwhelming and they are incapable of reacting in a constructive manner. Even the simplest decision may seem monumental to them or a minor problem blown completely out of proportion.

If a child is burned, accidentally poisoned or severely injured, the parents need a lot of emotional support. There may be feelings of guilt or blame for lack of care.

The family may even doubt your ability to handle the situation properly. It may be difficult for them to trust you and place their loved one in your hands.

The family is important and plays a significant role in the well-being of the patient, so we must be concerned about these problems. How then, can the specialist give aid to any member of the family in an emergency situation?

The professional attitude you maintain can do much to reassure the patient and family. Every action and communication reflects the sense of responsibility and pride you have in your work. The family can sense the confidence and security you feel in your role, and the sincere interest and concern for the well being of all.

Help can be given by acknowledging the fact that fear of the unknown is perhaps the worst fear of all. The specialist should keep the family informed of what is happening and what he is doing for the patient, whenever possible. Explanations should be kept simple and at a level the family understands.

The family will need reassurance which you must provide without building false hopes or lying. The trust a family member has in you will often be destroyed if you use these methods to temporarily allay his fears.

If the wife, husband or other family member want to, and it will not interfere with the patient's treatment, let him or her accompany the patient to the hospital. The patient needs the presence of someone who loves and belongs to him and there is no substitute for this. The family member should not be deprived of offering this love and comfort to the patient.

Very often neighbors are eager and willing to offer much assistance. They may care for the children or assist with other domestic problems. They can be very helpful in emergency situations and should be used if available.

The patient who is aware of the fact that someone is concerned about his family's needs and attempting to meet these needs will be far more cooperative and better emotionally to face the future.

Questions

1. How would you assist a patient's wife who is afraid to be left home alone?

2. What would you do for a patient's wife who is afraid her husband will die?

3. Why do parents of injured children need much emotional support?

Complete this portion of the SW during class lecture.

EMERGENCY TREATMENT OF PATIENTS

First-Aid Procedures

1. Maintain an Open Airway - MOA
   a.
   b.
2. Survey the patient to determine what must be done first
   a.
   b.
3. Remove patient's clothing
   a.
   b.
   c.

4. Physical Examination

   a.

   b.

   c.

   d.

5. Reassurance to Patient

   a.

   b.

6. General Care Principles

   a.

   b.

c.

d.

e.

7. Do not get excited, but act quickly and efficiently.

SW 3ABR90230-III-7

DEPARTMENT OF MEDICINE

MEDICAL SERVICE SPECIALIST

SPECIALIZED NURSING CARE I

EMERGGENCY CARE I

July 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
SHEPPARD AIR FORCE BASE, TEXAS 76311

Designed For ATC Course Use

DO NOT USE ON THE JOB

Department of Medicine
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

SW 3ABR90230-III-7
July 1975

EMERGENCY CARE I

OBJECTIVES

Select the basic facts and principles related to the Emergency treatment of hemorrhaging patients in a USAF Hospital or Clinic.

Select the basic facts and principles related to the Emergency treatment of a patient in shock in USAF clinic, or hospital.

Select the basic facts and principles related to the Emergency treatment of wounds in a USAF Hospital or Clinic.

Given instructor guidance and the necessary equipment, perform Emergency treatment's for a simulated patient. 65% of the items on checklist 3ABR90230-II-7d must be accomplished.

INTRODUCTION

Immediate lifesaving procedures are vitally necessary in care of human beings injured in war, disasters and accidents or illness. Emergency medical treatment can save a life. During class take notes to complete blank spaces in this SW.

STUDY ASSIGNMENT

Before class, read AFM 160-34, paragraph 3-3, 3-4, and 3-9.

INFORMATION

HEMORRHAGE

Definition of:

1. Hemorrhage: A copious escape of blood from the blood vessels.

   a. Capillary Bleeding:

      (1)

      (2)

   b. Venous bleeding:

      (1)

      (2)

   c. Arterial Bleeding:

      (1)

      (2)

2. Signs and Symptoms

   a. Pulse:

b. Skin:

c. Respiration:

3. Treatment of Hemorrhage

a.

b. Pressure Points:

(1)

(2)

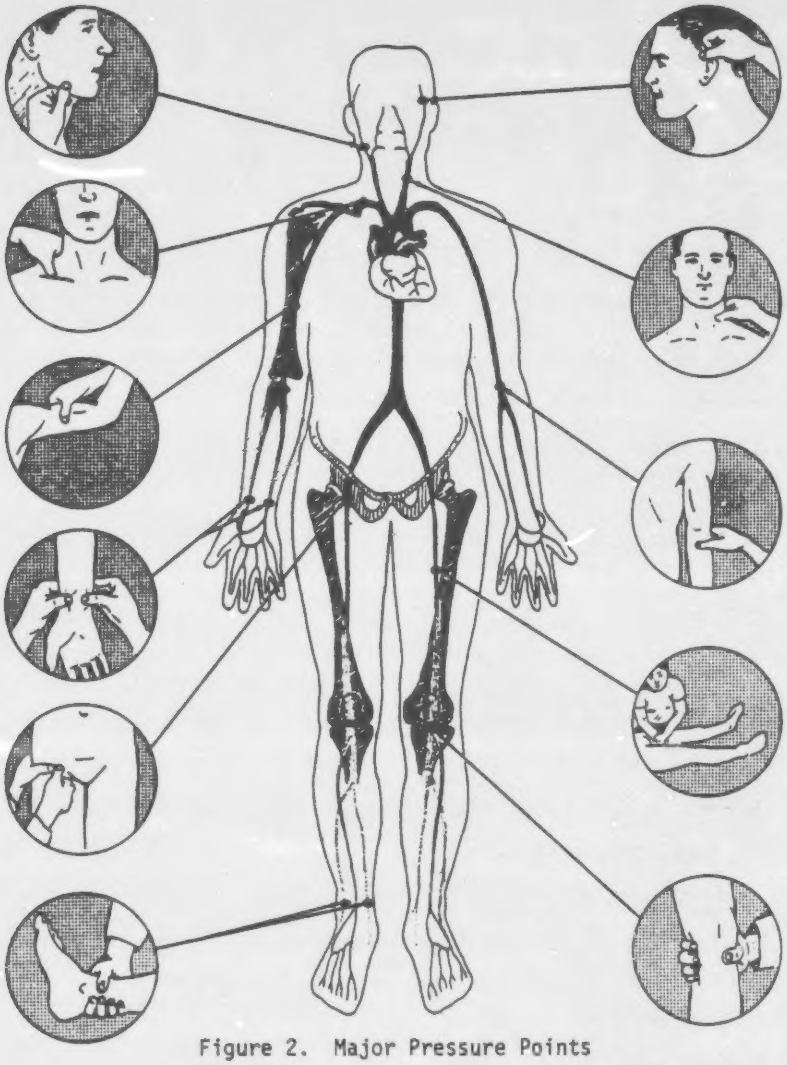


Figure 2. Major Pressure Points

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c. Using a Tourniquet.

Discussion of the tourniquet has been left until last because it should be just that--THE LAST RESORT. Except in rare instances, a tourniquet should not be used unless other methods of controlling hemorrhage are not available, or have been tried without success. If a tourniquet is used, it must be applied properly to avoid damaging tissues.

A tourniquet should be at least 1-inch wide and should be applied over a 3 to 4-inch width padding of other material, such as folded toweling. In this way, the pressure of the tourniquet will be spread and damage to tissues immediately under the tourniquet will be avoided. This consideration, however, should not keep one from applying the tourniquet tightly enough to accomplish its purpose. If it is not tight enough, it may close off the veins but not the arteries--in which case the blood will continue to pass to the bleeding area through the arteries. The blood will not be able to leave the bleeding area because of the closed-off veins--then the bleeding will be worse than if no tourniquet had been applied. Because a tourniquet is designed to cut off the entire blood supply to an area, oxygen will not be delivered to the tissues beyond the tourniquet and these tissues may be damaged, die, and become gangrenous.

SHOCK

Definition of:

1. Shock: A deficiency of circulating blood caused by a loss of blood volume.

    a. Syndrome:

    b. Common Signs and Symptoms:

        (1)

        (2)

        (3)

2. Types of Shock:

    a. Extravascular Shock:

        (1) A loss of blood .....

        EXAMPLE: External hemorrhage, or burns

        (2) A loss of blood.....

        EXAMPLE: Fractures, crush injuries

b. Intervascular Shock:

(1) A loss of blood volume.....

(2) The primary defect is.....

c. Neurogenic Shock:

(1) Is caused by.....

(a)

(b)

(c)

(d)

(2) These cause the.....

(3) Syncope.....

d. Anaphylactic Shock:

(1) This syndrome of shock is caused by.....

(a)

(b)

(c)

(2) What type of drug can cause anaphylaxis.....

3. Treatment of Shock:

a. Extravascular Shock:

(1)

(2)

(3)

(4)

(5)

(6)

b. Intervascular Shock:

(1)

(2) Use of an I.V. will.....

c. Neurcgenic Shock:

(1)

(2)

d. Anaphylactic Shock:

(1)

(2)

(3)

(4)

WOUNDS

Definition of:

1. Wounds: An injury to the tissues produced by violence, whether the violence be purposeful or accidental.

a. Types of Wounds:

(1) Closed Wounds:

(a)

(b)

(2) Open Wounds:

(a)

(b)

(c)

(d)

2. Treatment of Wounds:

a. Closed Wounds:

(1)

(2)

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(3)

(4)

Figure 6. Direct Pressure

b. Open Wounds......

(1)

(2)

(3)

(4)

(5)

(a) Antibiotics......

(b) Tetanus Toxoid......

c. Maintaining an Open Airway (MOA) and treating for shock:

(1) Can be done simultaneously by......

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(a)

(b)

(c)

d. Remove any clothing that may be preventing you from seeing the wound in its entirety.

(1)

(2)

e. Skull Injuries:

(1)

(2)

(3)

f. Do not remove impaled object......

(1)

(2)

(3)

(4) Cleanse the wound:

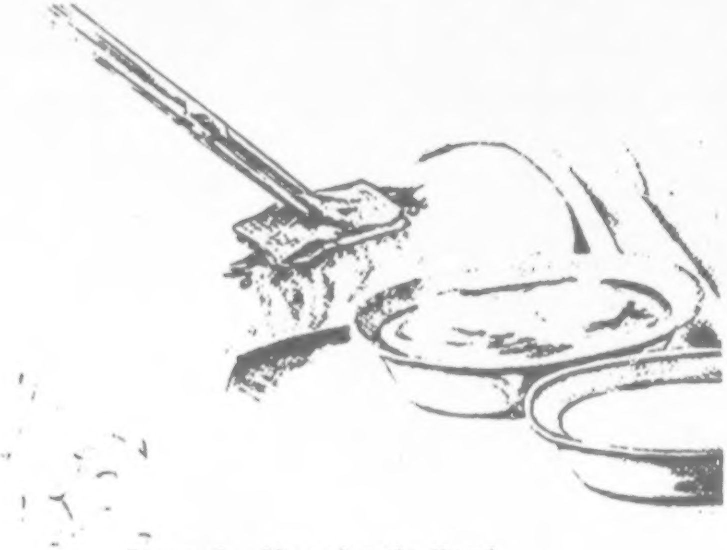

Figure 7. Cleansing the Wound

(a)

(b)

(c)

(d)

(e)

(5) Apply a dry sterile pressure dressing......

(a)

(b)

(c)

(6) Cravat bandage is made by......

(7) Applying the cravat bandage to the head (scalp and forehead)

(a)

(b)

(c)

(d)

(e)

(8) The cravat bandage to the temple, cheek, or ear.

After the dressing is applied to the wound, place the center of the cravat over it and carry one end over the top of the head and the other under the jaw and up the opposite side, crossing them at right angles over the temple on the injured side. Continue one end around over the forehead and the other around the back of the head to meet over the temple on the uninjured side. Tie the ends with a square knot.

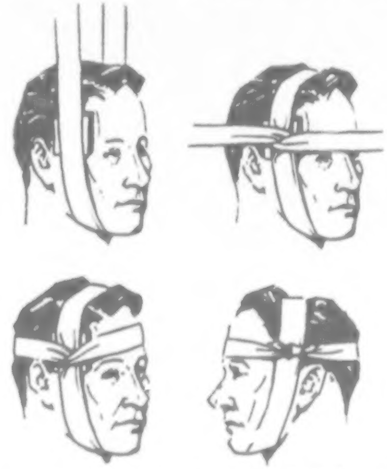

Figure 8. Cravat Bandage for the Temple, Cheek, or Ear

(a)

(b)

(c)

(d)

(e)

(f)

(g)

(9) The Roller Bandage for the forearm, leg, and thigh.

Use the spiral reverse bandage to cover wounds on these parts. It is the only type of bandage that will keep the dressing flat and even. Make two or three circular turns around the lower or smaller part of the limb to anchor the bandage, then start upward, going around and around, overlapping about one-third to one-half the width of the previous turn. Do this as long as each turn lies flat. When the edge of a turn is loose, use the reverse lap. Continue the spiral, making the reverse laps when necessary and secure the end when completed. Note that it is necessary to reverse each turn as it is described in most textbooks.

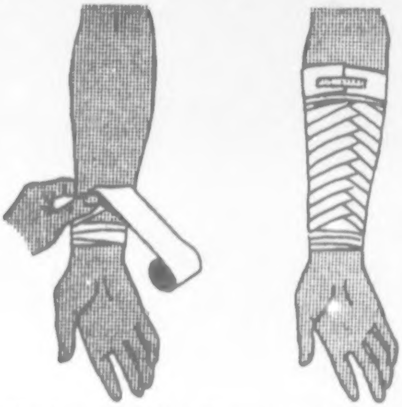

Figure 9. Roller Bandage for the Forearm, Leg, and Thigh

(a)

(b)

(c)

(d)

(e)

(f)

(g)

Instructions for lab

You need to remember the material presented in this lesson since you will be divided into teams and required to treat properly a simulated patient, for shock, hemorrhage, and bandaging an open wound.

CHECKLIST 3ABR90230-III-7d

	VALUE	POINTS	REMARKS
*1. Insure an open airway	20		
a. Insure absence of abstruction			
b. Position: hyperextend head and neck			
*Failure of this item constitutes failure of progress check			
2. Control of hemorrhage	10		
a. Direct pressure			
b. Pressure Points			
c. Tourniquet			
3. Notify the physician (simulate)	10		
4. Treat Shock	5		
a. Position			
b. Conserve body "Heat"			
5. Observe for associated injuries and conditions	5		
a. Examine for other injuries			
b. Attempt to assess mental status			
c. Attempt to obtain circumstances of injury			
6. Use and main tain sterile aseptic technique during wound care	20		
a. Don sterile gloves			
b. Keep equipment and supplies terile			
7. Cleanse wound	10		
a. Irrigate b. Scrub surounding area c. Debride (simulate) d. Scrub wound			
8. Dress the wound	10		
9. Bandage the wound	10		
TOTAL	100		

Instructor ______________________________ Date ____________________

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STUDY GUIDE AND WORKBOOK 3ABR90230-III-8

DEPARTMENT OF NURSING

MEDICAL SERVICE SPECIALIST

THE PATIENT WITH ORTHOPEDIC DISORDERS

August 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
SHEPPARD AIR FORCE BASE, TEXAS

Designed For ATC Course Use

DO NOT USE ON THE JOB

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

SW 3ABR90230-III-8
August 1975

THE PATIENT WITH ORTHOPEDIC DISORDERS

OBJECTIVES

Select orthopedic terms and principles about the anatomy and physiology of an orthopedic patient.

Select the basic patient needs and nursing care approaches for a patient with orthopedic disorders.

Given the proper traction equipment and instructor guidance apply traction devices to a simulated patient (peer). Sixty-five percent of the items on checklist 3ABR90230-III-8c must be accomplished.

With instructor guidance correctly instruct a simulated patient (peer) in techniques of crutch walking. Sixty-five percent of the items on checklist 3ABR90230-III-8d must be accomplished.

The bony framework that supports our body and provides attachment for muscles is an amazing system consisting of over 200 bones of various shapes and sizes. This framework can be involved in disease as well as traumatic injury, and people are frequently hospitalized with some type of orthopedic disorder. In order to care for individuals with these conditions you must thoroughly understand the body framework and muscle attachments as well as the effect immobilization of these parts may have upon the individual involved.

INFORMATION

The musculoskeletal system, which is composed of bones, muscles, cartilage, ligaments and fascia, provides the body with its structural framework, its protective casing and its means of locomotion. It is made up of many bones which are attached to each other by strong ligaments at the joints. The ends of the bones are provided with smooth coverings of cartilage where they articulate with each other. The bony framework acts as a support and as a protection for the body organs. It also moves because the bones have attached to them a system of muscles that are fastened by strong fibrous bands called tendons. In most places in the body the muscles are so placed so that one set acts as an antagonist to the other set; thus, the biceps flexes the forearm on the upper arm, while the triceps extends it. The muscles are divided and surrounded by strong fibrous tissue called fascia.

The joints have a smooth lining called synovium. This specialized tissue secretes a synovial fluid that lubricates the joints to prevent friction. At those points where muscles move over a bony prominence, or where one bone moves over another, or where skin moves over a bony prominence, nature has provided a gliding mechanism called a bursa which is a closed cavity in the areolar tissue.

The patient with a musculoskeletal condition faces psychological and social problems as well as physical problems. The technician must be able to meet the needs and to help solve the problems of patients who cannot engage in normal activities. Orthopedic patients are of all ages and economic problems are often a real threat to the patient. To help meet the patient's emotional needs, it is desirable to keep him busy - "Action Absorbs Anxiety." A patient is more secure and has a sense of purpose when he participates in

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This supersedes SW 3ABR90230-IV-3, Jan 75.

a scheduled program of activity. This schedule should be written on the patient's nursing care plan. Patients should, if possible, participate in a scheduled exercise program.

Most patients who have disease or traumatic conditions of the musculoskeletal system experience pain. Bone pain is usually described as being aching and boring. Prolonged pain consumes energy, and the patient has a tendency to become self-centered and dependent.

The objective of orthopedic nursing is to prevent contracture deformities and to maintain as much normal function as possible. Pain and muscle spasm produce limitation of motion. Muscle spasm occurring in the strong flexor muscles causes these muscles to shorten, as flexor muscles are stronger than extensor muscles. In order to prevent muscle contracture and loss of joint function the patient must be positioned in accordance with correct principles of body alignment.

Muscle exercises are of great importance to the orthopedic patient. Due to inactivity the muscles loose strength, joint movement becomes restricted and deformities are likely to occur. To avoid these complications exercises are ordered for the orthopedic patient. The exercise program must be adapted to each patient's particular needs. Exercises when properly performed help to maintain or improve muscle strength, to maintain or restore joint function, to prevent deformities, to aid circulation, and to build endurance.

Care of patients with orthopedic disorders

Principles of care

Selected terminology

There are many terms used that pertain to different portions of the musculoskeletal system as well as to the types of injuries which occur. You must know each of these so that you can understand the meaning of these words when they are used to describe the various orthopedic disorders.

Define the following terms:

Sprain

Fracture

Dislocation

Strain

Pathological Fracture

Immobilization

Traction

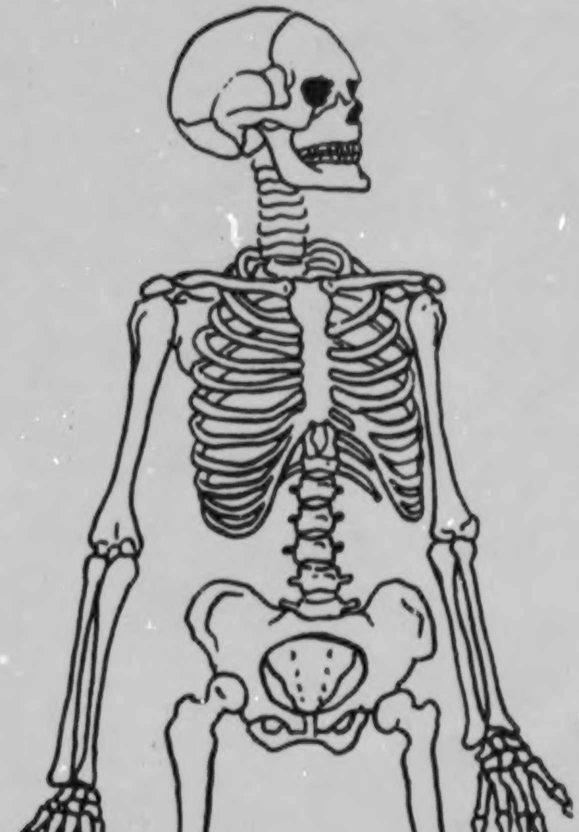

Figure 2

Anatomy and Physiology

Bones and locations

Spine

Upper extremities

- Clavicle
- Scapula
- Humerus
- Radius
- Ulna
- Hand

Lower extremities

- Inominate
- Femur
- Patella
- Tibia
- Fibula
- Feet

Muscles

- Sternocleido Mastoid
- Trapezius
- Deltoid
- Biceps
- Triceps
- Gluteus Maximus
- Quadriceps group
- Sartorius
- Hamstring group
- Gastroc Nemius
- Soleus

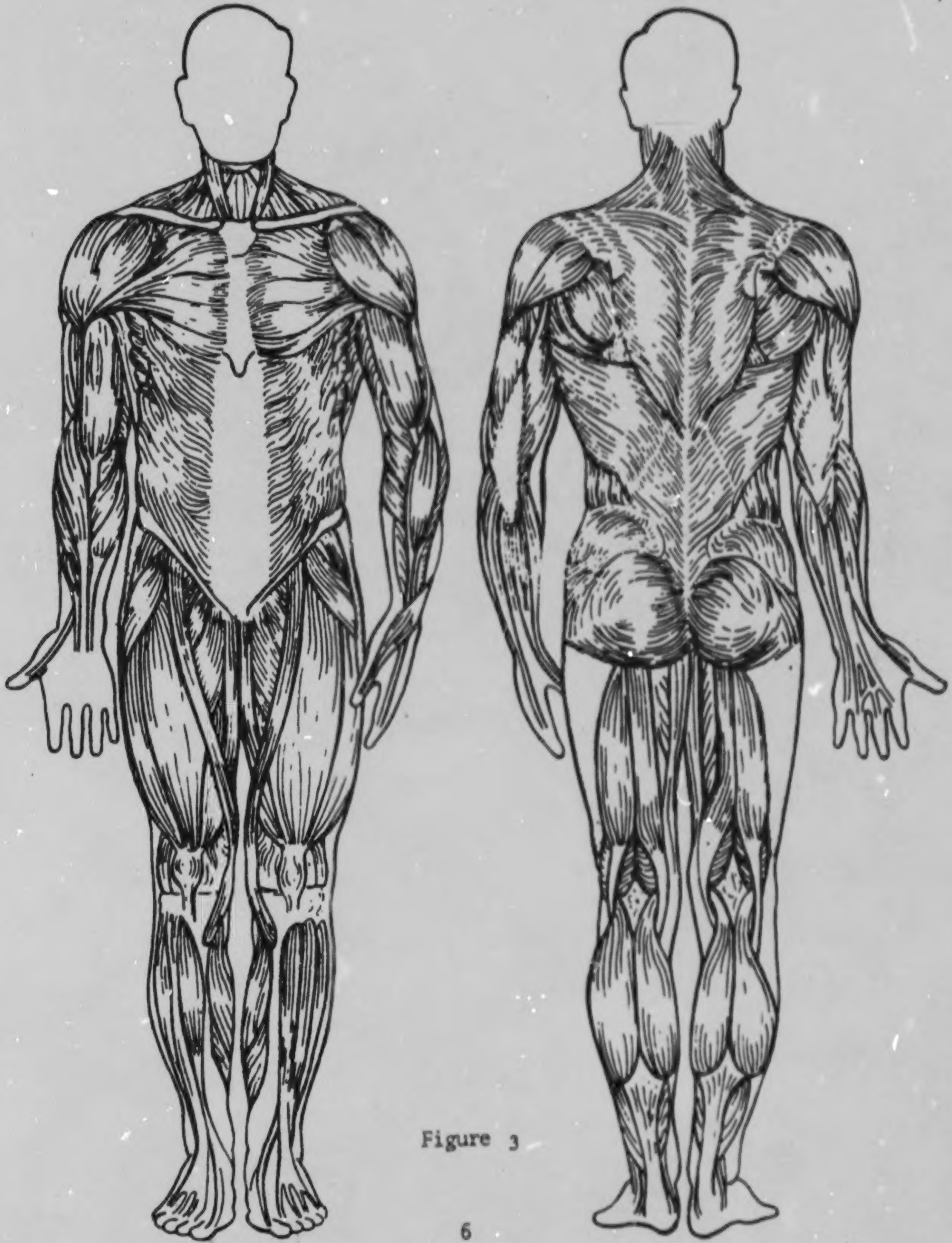

Figure 3

QUESTIONS

1. Which bone forms the front part of the shoulder girdle?

2. Which bone forms the forearm on thumb side of wrist?

3. Which bone forms the main support for the lower leg?

4. Which muscle adducts the upper arm?

5. Which muscle extends the thigh?

6. What is the function of the sternocleidomastoid muscle?

7. What is the function of the gastrocnemius and soleus muscle?

8. What is a strain?

9. What is a sprain?

Basic Patient Needs and Nursing Care Approaches

Fractures

Types

Greenstick

Comminuted

Transverse

Oblique

Spiral

Causes

Symptoms

Treatment: The objectives in the care and treatment of fractures include reduction of the fracture with maintenance of the fragments in the correct position during healing; prevention of excessive loss of joint motility and muscle tone, and prevention of general complications. Good general health must be maintained so that, with the healing of the fractured bone, the patient can continue as before his injury.

Closed reduction

Open reduction

Complications

Non union

Nerve damage

Blood vessel damage

kidney stones

Other complications

Cast Patient Care

When giving initial care to a patient with a cast we will discuss five areas of importance. These areas are: the patient's unit, body alignment, skin care, turning the patient, and the patient's emotional problems.

Patient's Unit

The bed for a cast patient is prepared in the routine manner with one exception for the patient who has a cast on the lower extremities. The top sheet is not tucked in at the foot of the bed, in order to prevent a complication known as footdrop. Footdrop could be caused by the weight of the top sheet on the patient's feet. (Footdrop will be discussed later in this study guide under complications.)

To keep the patient more comfortable to prevent further injury, and to make his confinement in bed more restful, a firm mattress should always be used.

The patient's bed should be equipped with a balkan frame or other suitable type of orthopedic frame and a trapeze to aid in self help. By using the trapeze, the patient is able to change position, perform exercises, and assist in the placement of the bedpan.

The type of bedpan used for this patient is called a fracture bedpan. The fracture bedpan and the urinal should be kept in the patient's bedside stand.

Most casts are bulky and cumbersome, which means that the patient has little control over his coordination for the first few days. He may injure himself by falling or sliding out of bed because he cannot control the weight of the cast. To prevent this siderails are placed on the patient's bed. There should be a call bell within reach so that the patient will have a means of communication with the nursing staff when he needs something.

Body Alignment

When the patient arrives on the ward, his cast may still be damp. To keep from causing indentations in the cast, the patient should be lifted onto the bed by using a drawsheet or by using the palms of your hands. When the fingertips are used, indentations are formed on the outside of the cast, resulting in pressure points on the inside of the cast.

Once in bed, the patient should be kept in the center of the bed. A firm mattress will help keep the patient's back in good alignment.

Where there are curves in the cast, pillows may be used as a means of support. This prevents the curved areas from flattening or cracking and keeps the patient more comfortable. All pillows should have plastic covers to prevent dampness and mustiness.

Skin Care

The exposed skin should be bathed and dried thoroughly at least daily. This is followed by a gentle massage of the exposed areas and application of oil or lotion. Lanolin preparations are used most often to keep the skin moist and pliable.

Along with caring for the patient's skin we must also care for his cast. The cast edges are to be inspected for roughness and broken areas, since this can be a source of irritation. If rough edges are found, they can be repaired with adhesive tape. Any serious damage is to be reported immediately.

The skin around the cast edges should be examined for debris, dampness, mold, or irritation. Reach up under the cast with your fingers or use a mirror to see up inside the cast. You should learn to inspect casts with your sense of smell along with your sense of sight and touch.

Other areas of the patient are very vulnerable to pressure sores. The heel becomes sore from pushing himself up in bed. The elbows also become sore from bracing himself during movement.

Turning the Patient

The patient is turned for his own comfort to alternate pressure areas and so that the cast may be dried on the posterior surface.

Do not attempt to turn a patient in a large cast by yourself. This will endanger the patient and the cast. This procedure requires at least two people.

The patient should be turned every two to four hours, or as ordered by the doctor. The procedure for turning the patient is as follows:

1. Explain the procedure and reassure the patient. The patient in a body cast will be practically helpless and very apprehensive.

2. Stand on the side of the patient's involved leg.

3. Gently move the patient toward you. (Example: If the patient has a fractured right leg, he is moved to the right side of the bed.)

4. Place the arm on to which he is to be turned above his head.

5. Gently roll the patient onto his unaffected side while supporting the affected extremity.

6. The abduction bar is not to help turn the patient. It is used to help support and strengthen the cast.

7. Place pillows under the chest and legs.

8. Gently lower the patient onto his abdomen.

9. Position the patient in the center of the bed with the patient's feet hanging over the end of the mattress. Feet should not rest on the mattress as this causes discomfort, pressure on the toes, and footdrop.

10. The patient's modesty should be protected. Cover him with a sheet or a diaper made from a bath towel.

11. Inspect the buttocks area for signs of irritation or debris.

12. Maintain good body alignment.

Emotional Problems

In order to give complete nursing care we must care for not only a patient's physical problems but also his emotional problems. It takes a long time for a bone to heal and the patient will have a lengthy stay in the hospital. Boredom, frustration, and inactivity can lead to emotional problems if allowed to go unchecked.

Allow the patient to become as self-sufficient as possible. This will avoid the frustration which comes from over-dependency. Involve your patient in activities such as occupational therapy, physical therapy and hospital ward activities such as movies, library, Red Cross activities, etc. These activities, along with taking the patient out of his room periodically will help to keep the patient from becoming bored. With the doctor's permission the patient can be put on a stretcher and taken out of his room. Be certain that the patient has been secured to the stretcher with litter straps.

When caring for a patient in a cast, you must observe him constantly and question him repeatedly in your attempt to prevent further damage and discomfort for him. The next part of this study guide will give you the basic knowledge concerning what to observe and/or question.

NURSING APPROACHES

Cleanliness of the Cast

Cleanliness of the cast is an essential part of continuing cast patient care. A clean cast helps to improve the patient's outlook and disposition. The patient's cast should be kept clean and free of debris. Stains may be removed by using a damp sponge and a cleaning agent.

Skin Irritation

During the continuing care of the cast patient, you are to constantly observe for signs of skin irritation. The following signs and symptoms should lead you to suspect skin irritation under a cast and they should be reported immediately.

Complaints of pressure may be due to carelessness in molding, drying or handling a new cast. It may be also due to insufficient padding of the bony prominences or to swelling of the affected part. Friction may be caused by a loose fitting cast. Foreign objects under the cast can cause skin breakdown. Intense itching and a burning sensation beneath the cast may be felt by the patient. Heat radiating from the cast surface is warm to the touch. You may smell an offensive odor from the cast. There may be an appearance of a discharge on the surface of the cast.

Circulatory and Nerve Impairment

Another complication to observe for in a cast patient is circulatory and nerve impairment. Should a complication such as this go unchecked, it could have very serious consequences for the patient. One or more of the following signs and symptoms indicate circulatory and/or nerve impairment.

The patient may experience coolness of the affected part. Always check one extremity against the other. A delayed return of blood to the affected part upon blanching. (Blanching is squeezing the toe or finger between your fingers.) Blueness or absence of color may also indicate circulatory problems. When a patient has a problem with nerve impairment, it may show by signs of numbness, tingling sensation, or paralysis.

Exercises

Exercises must be performed by the patient in order to prevent complications to healthy muscles and joints during long periods of inactivity. If not exercised the muscles will lose their muscle tone and the joints will become stiff. Range of motion exercises are performed on the unaffected extremity and with the doctor's permission, on the available joints of the affected extremity. In performing range of motion exercises, the patient puts all available joints through their normal range of motion.

Diet

Along with complications of muscles and joints, inactivity may lead to constipation. The diet used to prevent constipation is known as a high residue diet. This diet is composed of foods high in bulk content such as fresh fruits and vegetables, cereal, bran, and nuts which are not easily digested. As always the patient's likes and dislikes are considered.

Elimination

Elimination can be a problem for a patient in a body cast. Emphasis is placed on keeping the cast clean and dry. To keep urine from flowing back into the cast, elevate the head of bed when the patient voids.

To prevent fecal matter from soiling the cast or from getting under the cast edges, line the cast edges around the perineum with a dry waterproof material. Clear plastic wrap or oil cloth can be used. The disposable type of plastic wrap is best suited for this area. The waterproof material should be applied in strips rather than in a solid piece. Again, elevate the head of the bed.

The fracture bedpan should be used since because of its smaller size and flat shape it is easier for the patient to place himself on it. Have the patient lift himself up with the trapeze; this will make administering the bedpan easier. Unless the patient is in shock or hemorrhaging, it is almost always permissible to elevate the head and shoulders for use of a bedpan. Some type of padding should be placed on the bedpan to help absorb moisture.

After the patient has completed his bowel movement, clean the peri-anal area thoroughly and clean or replace the waterproof material used to line the cast edges.

Complications

As a Medical Service Specialist you must be constantly observant for the many problems associated with prolonged bedrest. Prolonged inactivity can lead to any one or more of the following complications listed here and in the section concerning traction patient care.

Atrophy is the wasting away or decrease in size of tissue due to inactivity or inadequate nutrition. Contracture is a shortening or distortion due to shrinkage of muscles or scars. Skin breakdown has been described earlier in the study guide. Footdrop occurs when the muscles of the calf tend to shorten and the muscles of the anterior leg stretch. Pain is the first indication of local pressure; this may lead to decubitus ulcers if allowed to go unattended. Wet cast may be due to perspiration or accidental spills. The cast becomes soft and ineffective as a support.

Care After Cast Removal

The cast is removed when, by medical examination and x-ray, it is determined that a sufficient level of healing has taken place. The patient will experience discomforts as he adjusts to his new freedom and he will continue to depend on your nursing skills. Once out of the cast he will become conscious of many aches and discomforts.

When the cast is removed, the skin under the cast is covered by a dry, tender, yellow or brown crust of dead skin cells. Vigorous attempts to remove this crust can cause bleeding and irritation.

Gently wash the affected extremity with extreme care. If the cast is to be left off, lotion or oil may be applied after bathing. Do not apply lotion or oils to the skin if the extremity is to be casted again.

Following the removal of a cast, the patient will be uncomfortably aware of the weakness of his muscles and joints. Instruct the patient to resume normal activity gradually. The affected extremity should be supported to prevent injury. Supports such as trochanter rolls, sandbags, footboards, and padding can be used. Be careful to avoid any sudden changes of position since this could cause the body part to be fractured again. Maintain a position of relaxation after the cast is removed.

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QUESTIONS

1. What special considerations would you take in preparing a bed for a patient in a body cast?

2. How can cast edges be repaired if they have rough or broken areas?

3. When the skin under a cast becomes dry and begins to itch, how can a patient relieve this itching?

4. Explain the procedure for turning a patient in a full body cast.

5. What is the purpose of the abduction bar on the body cast?

6. What can be done for a cast patient's emotional needs?

7. List the signs of skin irritation under a cast.

8. List the signs of circulatory and/or nerve impairment.

9. What type of diet is the patient in a body cast placed on to prevent constipation?

10. How can you prevent the cast edges around the perineum from becoming soiled by fecal matter?

11. Define the following complications:

a. Contracture:

b. Atrophy:

12. Footdrop is caused by ______________________________ of the calf muscles.

13. What can be done to protect a patient's weakened extremity after the cast has been removed?

14. What is involved in the skin care given to a patient whose cast has been removed?

Traction Patient Care

Purpose

A doctor may decide to put someone into traction for a variety of reasons. He may prescribe it to reduce and immobilize fractures. It can be used to relieve muscle spasms which can cause overriding bone fragments and are responsible for great pain. Traction can be used to stretch adhesions and contractures that are seen in the seriously burned patient. Finally, traction may be used to correct certain deformities such as scoliosis, tuberculosis of the joint, dislocated hips, or curvature of the spine.

Types

There are two types of traction. The first is skin traction. In this type the pull is applied to the skin through the use of a traction bandage or halter. The force of the pull must be transmitted to the muscles and then to the bone. This type of traction is not used over a long period of time, because the bandages tend to irritate the skin and freedom of movement is very limited. Skin traction should not be applied to a patient with a severely injured extremity, with open wounds, or to a patient allergic to tape.

The second type is called skeletal traction. In this type the pull is applied directly to the bone by means of pins or wires passed through the bone. This type of traction may be kept on for a longer period of time because it enables the patient more freedom and is more comfortable for him.

Care of a Patient in Traction

When caring for a patient in traction, body alignment is very important to achieve the desired pull on the affected part. When a person is in a side lying position, for instance, the amount of pull is different than if he were in the recumbent position. It is imperative therefore to keep the patient on his back.

Always have a provision for counter traction in order to attain the greatest effect for traction. Counter traction means a pull is exerted in the opposite direction of pull by the traction.

Footdrop becomes a problem to the patient who must lie in bed for a long period of time. In these cases a foot board should be used and the patient should be used and the patient should perform range of motion exercises to prevent atrophy of the muscles.

When a patient lies on his back for a long period of time, the hips tend to rotate outward. This is called external hip rotation and can cause a permanent deformity. The use of trochanter rolls will prevent this problem.

A firm bed and mattress is important for the traction patient because the traction alignment will be altered if the mattress is sagging. Sagging of the bed can cause hip flexion contractures.

Circulation

Circulation can be a big problem with this type of patient because they are confined to the bed and are not able to move about. There are three ways to check for a circulatory problem. The color of the affected part should match the color of the unaffected part. The temperature of the parts or extremities should be the same. The pulse in both extremities should be the same. If one pulse is stronger than the other, circulation is being impaired.

Nerve impairment

Nerve impairment can be a problem with the orthopedic patient, but the signs and symptoms are not visible ones. You must ask the patient if he is experiencing any numbness or tingling in the extremities, and observe for or use pin pricks for signs of paralysis.

Traction Equipment

Care of the traction equipment is almost as important as care of the patient. If the equipment is not taken care of, it will not produce the desired effect. Friction against the weight must not occur. The weights must hang freely. (You must also check to see if the traction is supposed to be continuous, because some patients are allowed out of traction for periods of time depending on prior orders from the doctor.) The pull of the traction should be in a straight line. If skeletal traction is being used, the pin sites and skin around them should be checked frequently for signs of infection.

Bathing

Bathing of the patient is important to his personal hygiene and to prevent skin breakdown. The anterior portion of the body will be washed first including all body parts that can be reached without disturbing the traction. You should allow the patient to wash as much of himself as possible. This not only gives him a feeling of accomplishment but also serves as exercise. The Medical Service Specialist will have to wash the back and buttocks and inspect, with the fingers and eyes for signs of skin breakdown. The feet should be massaged with lotion to prevent drying and cracking. After the bath, check to see that the part in traction has not been disturbed. Never disturb the weights when caring for traction patients.

Patient's Bed

The patient's bed is important in the care of orthopedic patients. As stated before, the mattress must be firm to prevent sagging. An overhead bar and trapeze should be attached so the patient can move up in bed and assist the specialist in bathing and changing bed linen. Finally, the sheets should be clean and wrinkle free to prevent skin irritation and breakdown.

Complications

Hypostatic Pneumonia is a condition caused by a pooling of secretions in the lung due to inactivity. This can be prevented by encouraging the patient to change position frequently and by coughing and deep breathing exercises.

Skin breakdown is found in both the cast and traction patient. Decubitus ulcers are formed in areas where bones are next to the skin and pressure is applied. This can be prevented by padding and massaging the bony prominences and changing the patient's position frequently.

Osteoporosis is a softening of the bone due to inactivity, no weight bearing, or loss of abnormal amounts of calcium. The prevention is quite simple. Put weight on the affected part as soon as possible. Resistive exercises while on bed rest are very important.

Urinary Calculi and Stasis are defined as stones formed in the urinary passages and stagnation of the normal flow of urine, respectively. Calculi are formed when there is an abnormal amount of calcium being lost from the stones. To prevent these conditions, the patient should be encouraged to drink large amounts of fluids and to assume the natural position for voiding when possible.

Contractures occur when the muscle is permanently contracted or shortened. This condition can be prevented by exercise.

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QUESTIONS

1. List the four purposes of traction.

2. What are the two types of traction?

3. Which type of traction is applied when a patient will need it over an extended period of time? Why?

4. Why is body alignment important in the care of a traction patient?

5. How is footdrop prevented?

6. What is external hip rotation, and how is it prevented?

7. List three ways to check for circulatory problems.

8. List three ways to check for nerve impairment.

9. Why should the patient be allowed to wash as much of himself as possible?

Other Orthopedic Disorders

Rheumatic Disease and Rheumatism

These are general terms applied to conditions causing pain and stiffness of portions of the musculoskeletal system. There are eleven million persons in the U.S. afflicted with these disorders, including arthritis (an inflammatory joint disease). Three hundred twenty thousand of these patients are disabled so badly they are unable to work.

Atrophic or Rheumatoid Arthritis

Atrophic or rheumatoid arthritis is a disease of the bone joints. The cause is unknown as of yet. It commonly afflicts people between the ages of 20 to 45 years, and is more prevalent in females than in males by a 3 to 1 ratio.

Onset is gradual causing pain and stiffness in one or more joints. The inflammed area becomes edematous and red.

As the chronic state of this disease develops, joint destruction worsens and scar tissue forms leading to complete immobility.

Nursing care management of this disease will include a high protein diet for nutrition and to build body resistance to the disease. Heat, exercise and activity is required in order to maintain joint mobility. Good body alignment and posture should be explained and reinforced to prevent contracture of muscles. Eventually surgery may become necessary to fuse joints. This surgery is called arthrodisis. There are numerous drugs used to fight the inflammation.

Hypertrophic or Osteoarthritis

Hypertrophic or Osteoarthritis is caused by the normal wear and tear on bone joints especially the weight bearing joints, i.e., the knees, hips and spine. Pain and stiffness will occur although not as severely as in rheumatoid arthritis.

Nursing care is primarily aimed at wieght reduction to lighten the load on the afflicted joints. The patient is rested frequently and moist heat is applied. The patient must avoid cold and dampness.

Between rest periods active exercises are utilized to maintain mobility.

High dosages of aspirin are effective in pain relief.

Bursitis

Bursitis is a flammatory disease of the bursal sacs of the bone joints. It is caused by trauma, strain or overuse of the bone joint.

Calcium deposits appear in the sacs, which are filled with fluid to act as pads for the joints. This usually occurs at the shoulder, elbow, hip or knee. Pain caused by this disorder is severe and aggravated by movement of the joint.

Treatment includes immobilization of the affected joint, anagesics and steroids such as cortisone are injected into the area. The bursal sacs may also be aspirated to remove excess fluid and irritating deposits.

Application of Traction

Preparing the Patient for Traction.

Emotional preparation is very important for the patient. Traction looks like torture equipment to patients and visitors. Always explain the procedure thoroughly and tell the patient and his relatives that the traction is not only curative, but relatively comfortable as well.

Physical preparation consists of placing the patient in a correct, comfortable position with good body alignment, and preparing the skin. Skin preparation for skeletal traction is basically the same as for any other orthopedic surgery. For skin traction, check the orders for each patient. Shaving of the area is often omitted. If it is ordered, clippers are often used. They are less likely to injure the skin than a razor. Always report any denuded areas - whether caused by the original trauma or by trauma from the preparation.

Preparing the Traction Equipment

Determine what equipment will be used. As you work with traction, learn to visualize the completed set-up of each traction. This will aid you in easily selecting the equipment you need when any type of traction is ordered.

Traction equipment is often accumulated over a period of several years and may be of many types and sizes. Check the parts to see that they fit together. Also make sure the traction unit or frame will fit the patient's bed. If it does not, either the frame or the bed will have to be changed.

When you select pulleys, see that they move freely and that the clamps fasten securely. Always supply extra pulleys to bypass any obstacles.

Provide a rope that is long enough to allow for several adjustments. If you must cut the rope, the ends should be secured with adhesive tape to prevent them from becoming frayed. To do this, wrap the rope with tape where the cut is to be made. Then cut through the tape and rope. If you cut the rope first, then wrap it, the ends will still fray. Make sure that the rope will fit in the grooves of the pulleys you are going to use. Also, learn how to tie at least one kind of secure knot.

Provide weight holders (if needed) and weights for each pull of the traction. Some types of traction provide pull in two or three directions (up, down, horizontal, etc.). Weights vary in size from 1-5 lbs. Be sure you supply enough to apply the desired pull without having to stop during the procedure and go look for more. Usually, traction is set up using a combination of 1, 2 and 5 pound weights.

Select a suitable spreader bar. This is a metal bar used to attach the rope with the weights to the traction bandage being used. They come in many shapes and dizes. Use a spreader bar which is wide enough to prevent the traction bandage from causing pressure or friction on the skin but narrow enough to allow the bandage to hold the affected part firmly.

Provide a trapeze bar for all traction patients, unless there is some reason why the patient should not or cannot use it. A trapeze allows the patient to move about more freely, encourages the use of the upper extremities, gives children something to play with and it makes nursing care easier because the patient can do much of the necessary lifting to allow better care.

Place the bed so as to allow space for the traction arms and weights and lock the wheels. Be sure the call bell can be easily reached by the patient once he is in traction.

Sheepskin and extra pillows are frequently used for comfort, support and protection with traction patients. Check to see if you will need any of this equipment and supply it as required.

Cervical Traction

Cervical traction is traction applied to the cervical vertebrae.

Purposes - Cervical traction may be used for:

(1) Fracture of dislocation of the cervical spine.

(2) Relief of pain associated with cervical arthritis.

(3) Relief of severe muscle spasms in the neck.

(4) Relief of severe neck strain.

Types - Cervical traction may be applied as either skin or skeletal traction.

Skeletal cervical traction is applied using metal tongs which are anchored in the skull. (Crutchfield, Barton, Vinke tongs) The tongs are applied in surgery. In this type of traction the pull is always horizontal and the traction must be continuous.

Cervical skin traction is applied using one of several types of head halters made of leather or canvas. These halters may be applied by the Medical Service Specialist with assistance in the patient's room. This type of traction may be continuous or intermittent and the pull may be horizontal or vertical. The types with a vertical pull are usually intermittent. Cervical skin traction is rarely used for serious injuries (those with real or potential cord damage) unless tongs for skeletal traction are not available. Head halters are difficult to apply safely to a severely injured patient. It is important to remember that the doctor orders the type of traction as well as the patient's position.

Cervical traction using the canvas head halter

1. Greet patient and explain procedure.
2. Gather equipment:
    a. traction unit with pulley
    b. head halter
    c. spreader bar
    d. rope to fit pulley on traction unit
    e. weights (4-8 lbs.) as ordered by the doctor
    f. weight holder (if needed)
    g. bed blocks to elevate head of bed (if ordered)
3. Provide counter traction as ordered.
    a. raise head of bed to semi-Fowlers position

b. reverse Trendelenberg position (if bed does not adjust to this position - use shock blocks

4. Adjust the head halter.
   a. chin should be set in center of halter
   b. see that straps are equally snug on each side
5. Attach rope to spreader bar and thread loose end through pulley.
6. Attach weights to rope.
7. Check body alignment.
8. Hold spreader bar securely and attach it to halter.
9. Instruct patient prior to release of weight.
10. Release weight gently.
11. Check for signs of nerve or circulatory impairment and skin irritation.
12. Recheck body alignment and explain importance to patient.

Pelvic Traction

Pelvic traction is skin traction applied to the pelvis using a belt that creates a continuous pull around the pelvic girdle. This type of traction may be either continuous or intermittent, and it can provide pulls in a variety of directions. It may be applied by the Medical Service Specialist with assistance in the patient's room.

Purposes

Pelvic traction may be used for most fractures and dislocations of the pelvis and relief of muscle spasms and/or pressure on nerve roots causing low back pain.

QUESTIONS

1. What should you explain to the patient and his relatives to make emotional preparation for traction easier?

2. When selecting pulleys to use for traction, what should you be especially careful to check for?

3. If you need to cut the rope you are going to use to set up traction, how can you prevent the ends from becoming frayed?

4. List two uses for cervical traction.

5. What position should the patient be in for cervical traction using a horizontal pull?

6. How can you provide counter-traction for the patient in cervical traction?

7. List the equipment needed to apply cervical skin traction.

Crutch Measurement

The orthopedic patient usually has a great deal of time to think about the moment when he will be able to be up on crutches. Many hospitals have physical therapy departments to take cahrge of crutch walking. He receives careful instructions from the therapist. But in smaller hospitals there may not be a physical therapy department and you must be prepared to get a patient ready to ambulate on his crutches.

Equipment

There are several kinds of crutches made by different companies. Make sure you have a matching pair. If crutches are more than two or three inches too long, they should not be refitted to the patient without some provision made for the correct placement of the hand bar. Crutch tips should be in good shape and be inspected for wear. If the tip is worn, slipping may occur. Padding over the axilary bar is not necessary.

Patient Preparation

In most situations the disabled person first is taught exercises to strengthen the muscles of the shoulders, chest, arms, and back. This is necessary, for the patient must support his weight with these muscles. A patient may carry out active or active-resistive exercises. He may use the overhead trapeze while lying in bed; also the tilt table is used to help a patient adjust to the vertical position.

Methods of Measuring

There are various methods for measuring a patient for crutches, but the best and most common method is the bed method. Have the patient lie on his back with arms at his side. Make sure the patient has on firm and well fitting shoes before measuring. Measure from the axilla to a point six to eight inches out to the side of the patient's heel with a six-foot measuring tape. When it is inconvenient to have the patient lie down, measurement can be made by subtracting sixteen inches from the patient's height. This will give an approximate measurement for crutches.

Hand Grip

The hand grip should be adjusted on each crutch for every patient. The hand bar should allow the wrists to be hyper-extended. The elbow should be flexed to approximately thirty degrees, similar to putting your hands in your pockets.

The patient is cautioned and instructed to place all his weight on the palms of the hands; otherwise he may develop brachial nerve damage from the weight being placed in the axilla area and circulatory impairment may also occur.

Demonstrate the use of crutches.

Before a patient learns to walk on crutches, he must first learn to balance himself. The patient must have good posture which includes making sure the head and chest are held high. He must not hunch his shoulders, should not slump, should not flex his knees, and should not evert his feet.

The patient may become fatigued easily, so find a gait or walk suitable for the patient's individual need. Faulty unnatural habits developed while trying to walk with crutches will ultimately inhibit his return to a normal gait.

When going up stairs, the crutches are advanced near the step, but not touching the step. The patient holds his involved leg behind him, lifts himself up onto the next step and brings his crutches after him. When coming downstairs, the crutches are placed on the next step down, the involved leg is held in front to help balance, and he then lifts himself down to the next step.

There are several different gaits taught patients when using crutches. The type of gait preferred for a specific patient depends on the reason for needing crutches, and is based on giving the maximum support to the affected area at all times.

You should alert the patient to the hazards of walking with crutches. When the patient begins to walk, there should be a technician in front and one behind. Make sure there are not loose rugs, obstacles, or wet spots near by. The patient should tak short steps and follow the directions given him.

Gaits

1. 2 point gait
2. 3 point gait
3. 4 point gate
4. Tripod or swing through gait

QUESTIONS

1. Describe the bed method of measuring a patient for crutches.

2. How may a person prepare to walk on crutches?

3. At what angle should the arm be held to adjust the handgrip?

4. Describe the procedure for ascending and descending stairs with crutches.

5. What kind of exercises may a patient do to prepare him to walk on crutches?

REFERENCES

Read and Study Thompson/Rosdahl, Textbook of Basic Nursing, Chapter 13, pages 89-105; Chapter 35, pages 391-393; and Chapter 45, pages 526-542.

1. Home Care of the Toddler in a Spica Cast: What It's Really Like, AJN, Nov 1971.
2. Hyperbaric Oxygen Therapy, AJN, May 1972.

CHECKLIST - 3ABR90230-III-8-C(1)

		Yes	No	Points
1.	Greet patient and explain procedure			5
2.	Gather equipment:			
	a. traction unit with pulley			
	b. head halter			
	c, spreader bar			
	d. rope to fit pulley on traction unit			
	e. weights (4-8 lbs) as ordered by the doctor			
	f. weight holder (if needed)			
	g. bed blocks to elevate head of bed (if ordered)			5
3.	Provide counter traction as ordered.			
	a. raise head of bed to semi-Fowlers position			
	b. reverse Trendelenberg position (if bed does not adjust to this position - use shock blocks)			20
4.	Adjust the head halter			
	a. chin should be set in center of halter			
	b. see that straps are equally snug on each side			20
5.	Attach rope to spreader bar and thread loose end through pulley			5
6.	Attach weights to rope			5
7.	Check body alignment			10
8.	Hold spreader bar securely and attach it to halter			10
9.	Instruct patient prior to release of weight			5
10.	Release weight gently			10
11.	Check for signs of nerve or circulatory impairment and skin irritation			5
12.	Recheck body alignment and explain importance to the patient			5
	TOTAL			

Rating: Maximum 100
Satisfactory 65 - 100

Instructor ____________________

Date ____________________

CHECKLIST - 3ABR90230-III-8-C(2)

	Student Evaluation		
	Yes	No	Points
1. Greet patient and explain procedure			5
2. Gather equipment: a. bed with balkan frame or overhead bar b. traction unit or (C-bar) with pulley c. pelvic traction belt d. spreader bar e. rope to fit pulley on traction unit f. weights (15-20 lbs) as ordered g. weight holder (if needed)			5
3. Elevate foot of bed			5
4. Attach traction unit with pulley to Balkan frame 12 - 18 inches above foot of bed			10
5. Check for correct body alignment			10
6. Apply pelvic belt			10
7. Attach rope to spreader bar and thread loose end through pulley			5
8. Attach weights to rope			5
9. Check body alignment			10
10. Attach spreader bar to pelvic belt			10
11. Instruct patient prior to release of weight			5
12. Release weight gently			10
13. Check for signs of nerve impairment or circulatory impairment and skin irritation			5
14. Recheck body alignment and explain importance to patient			5
TOTAL			

Rating: Maximum 100
Satisfactory 65-100

Instructor ______________________

Date ______________________

CHECKLIST - 3ABR90230-III-8d

	Yes	No	Points
1. Explain procedure			5
2. Gather equipment			
a. patient's shoes			
b. wood crutches			
c. axilla pads			
d. crutch tips			
e. tape measure			10
3. Measure crutches			
a. patient in full supine position			
b. measure from 2" below axilla to a point 6" from the base of the heel			
c. alternate method. Total height minus 16"			25
4. Adjust crutch height			5
5. Measure for hand grip placement			10
6. Teach patient to stand with crutches			
a. rest weight on palms of hands			
b. crutches in front of body			
c. patient leaning slightly from the ankles			10
7. Teach patient to shift weight			10
8. Teach patient best gait for his injury			
a. 2 point gait			
b. 3 point gait			
c. 4 point gait			
d. swing through or tripod gait			25
TOTAL			

Rating: Maximum points 100
Satisfactory 65 - 100

Instructor____________________

Date ____________________

PROGRAMMED TEXT

3ABR90230-IV thru VI-Vol II

Technical Training

Medical Service Specialist

10-11

BLOCKS IV THRU VI
MEDICAL TERMINOLOGY
VOLUME II

November 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
Department of Nursing
Sheppard Air Force Base, Texas 76311

Designed For ATC Course Use 76-3-9

DO NOT USE ON THE JOB

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This supersedes PT 3ABR90230-I-1, Vol 2, May 1975; PT 3ABR90230-I-5, Vol 2, Oct 1975; PT 3ABR90230-I-5, Vol 4, July 1975.

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

PT 3ABR90230-IV thru VI
November 1975

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MEDICAL TERMINOLOGY

OBJECTIVE

Define selected medical terms.

INTRODUCTION

Throughout this course you will be using medical terminology to describe conditions, locations, medications, and nursing procedures. This program is designed to teach you these terms so that you will be better prepared to understand them when they are used by instructors and other students in the classroom discussions. You will also be expected to use correct terminology when you contribute to the discussion. When you leave this course and work in the hospitals of the Air Force, you will be expected to be able to use and understand the terms you learn in this course.

INSTRUCTIONS

At the beginning of each block of instruction you will be assigned a section of this program to do as homework outside the classroom. You will be able to learn the terms at your own pace. You should complete your assignment as soon as you can so that you will be able to discuss those terms you do not thoroughly understand when they are used in the lesson. At the end of each block of training the assigned portion of this program will be included in the written test. Do not advance beyond the assigned portion of the program without consulting your instructor. You will find that it is easier to remember the meanings of these terms if you use them in the classroom shortly after learning them.

This program is divided into steps called frames. These frames are numbered. Each frame contains information which is important in understanding the term being described. It may also require you to respond by filling in blanks. If you are required to fill in blanks, the correct answer will be immediately below the frame. Correct any mistakes you make before continuing to the next frame. If there are no blanks to fill in or questions to answer you will find the statement "no response." You then continue to the next frame.

Occasionally you will be given a quiz to do. This quiz will concern the terms you have just learned. It may be a matching or fill in type quiz. Read the instructions at the beginning of each quiz to determine what you are expected to do. After each quiz the right answers will be given to you in the confirmation section that immediately follows the quiz. After checking your answers continue on to the next frame.

At the end of a major block of terms you will find a test. This test will contain 20 items that you will be asked to complete. The instructions for each test are found at the beginning of that test. If you miss more than two items do not continue until you have reread the frames that explain those items.

Speed is not a necessary factor in working this program. Work at a comfortable pace. Turn the page and start the program.

INFORMATION

UROLOGY

1. Genital (Genito) pertains to the organs of the reproduction system. If you were referring to the organs of the reproductive system you would use the term ______________.

//////////////

genital

//////////////

2. The term Genito is used when you construct a compound term eq., Genito-urinary system.

//////////////

no response

//////////////

3. The urinary system is composed of the organs that secrete, convey, store, and excrete urine. The system that secretes, convey, stores, and excretes urine is the ____________________ system.

//////////////

urinary

//////////////

4. In the male of the species, the reproductive tract is more closely connected to the urinary tract than in the female. Using the combination form of genital and the term for the system that secretes, conveys, stores and excretes urine, construct a compound term that refers to the males reproductive and urinary systems. ______________________-
_______________________ system.

//////////////

genito - urinary

//////////////

5. In the male of the species the genito-urinary tract refers to the ________________ and urinary systems.

//////////////

genital

//////////////

6. Urology is the branch of medicine concerned with the genito-urinary system of the male and the urinary system of the female. The branch of medicine that is concerned with the genito-urinary tract of the male and the urinary system of the female is ____________________.

/ / / / / / / / / / / / / /

urology

/ / / / / / / / / / / / / /

7. Urology is the branch of medicine that is concerned with the genito-urinary system of the ______________ and the urinary system of the ____________________.

/ / / / / / / / / / / / / /

male - female

/ / / / / / / / / / / / / /

8. Uria: a word ending (Suffix) that has to do with urine. The condition of the urine may be indicated by the word ending ____________________.

/ / / / / / / / / / / / / /

uria

/ / / / / / / / / / / / / /

9. The prefix "an" means without or absence of. Using the prefix for absence of and the word ending that has to do with urine, construct a term that means absence of urine in the bladder. ____________________

/ / / / / / / / / / / / / /

anuria

/ / / / / / / / / / / / / /

10. The absence of urine in the bladder is ______________________.

/ / / / / / / / / / / / / /

anuria

/ / / / / / / / / / / / / /

11. Anuria is the ____.

/ / / / / / / / / / / / / /

absence of urine in the bladder

/ / / / / / / / / / / / / /

12. The prefix "dys" means difficult or painful. Using the prefix for difficult or painful and a suffix for urine, construct a term that means difficult or painful urination. ______________________

/ / / / / / / / / / / / / / /

dysuria

/ / / / / / / / / / / / / / /

13. Difficult or painful urination is ____________________________.

/ / / / / / / / / / / / / / /

dysuria

/ / / / / / / / / / / / / / /

14. Dysuria is ____.

/ / / / / / / / / / / / / / /

difficult or painful urination

/ / / / / / / / / / / / / / /

15. A patient approaches you and tells you that he has pain when he urinates. You would report to the nurse that the patient has __________________.

/ / / / / / / / / / / / / / /

dysuria

/ / / / / / / / / / / / / / /

16. The prefix "Glycos" means sweet. Using the prefix for sweet and the term uria construct a term that means sugar in the urine. ______________________

/ / / / / / / / / / / / / / /

glycosuria

/ / / / / / / / / / / / / / /

17. The term that means sugar in the urine is ________________________.

/ / / / / / / / / / / / / / /

glycosuria

/ / / / / / / / / / / / / / /

18. A laboratory test shows that your patient has sugar in his urine. This symptom is called ____________________.

/ / / / / / / / / / / / / /

glycosuria

/ / / / / / / / / / / / / /

19. Glycosuria is ____.

/ / / / / / / / / / / / / /

sugar in the urine

/ / / / / / / / / / / / / /

20. Hematuria is blood in the urine. If a person has blood in his urine he has ____________________.

/ / / / / / / / / / / / / /

hematuria

/ / / / / / / / / / / / / /

21. The prefix "hemo" or "hema" means ____________________.

/ / / / / / / / / / / / / /

blood

/ / / / / / / / / / / / / /

22. A laboratory test shows that your patient has blood in his urine. This symptom is ____________________.

/ / / / / / / / / / / / / /

hematuria

/ / / / / / / / / / / / / /

23. Quiz

Fill in the blank to the left of each statement with the term that is best described by each statement.

a. ______________________ difficult or painful urination.

b. ______________________ blood in the urine.

c. ______________________ the branch of medicine concerned with the genito-urinary systems of the male and the urinary system of the female.

d. ______________________ absence of urine in the bladder.

e. ______________________ sugar in the urine.

/ / / / / / / / / / / / / /

a. Dysuria
b. Hematuria
c. Urology
d. Anuria
e. Glycosuria

/ / / / / / / / / / / / / /

24. The prefix "Noct" means night. Using the prefix for night and the term for urine construct a term that means excessive urination at night. ______________________

/ / / / / / / / / / / / / /

nocturia

/ / / / / / / / / / / / / /

25. A child awakens and passes urine frequently at night. This symptom is called ______________________.

/ / / / / / / / / / / / / /

nocturia

/ / / / / / / / / / / / / /

26. Nocturia means ____.

/ / / / / / / / / / / / / /

excessive urination at night

/ / / / / / / / / / / / / /

27. The prefix "oli" means decreased. Using the prefix for decreased and the term for urine construct a term that means decreased urinary output. ______________________

/ / / / / / / / / / / / / /

oliguria

/ / / / / / / / / / / / / /

28. A patient that has been passing 1200 cc of urine in 24 hours. In the past 24 hours he has only passed 300 cc of urine. This symptom is called ______________________.

/ / / / / / / / / / / / / /

oliguria

/ / / / / / / / / / / / / /

29. Oliguria is a ______________________ in urinary output.

/ / / / / / / / / / / / / /

decrease

/ / / / / / / / / / / / / /

30. Oliguria is ____.

199

/ / / / / / / / / / / / / /

a decrease in urinary output

/ / / / / / / / / / / / / /

31. The opposite of oliguria is polyuria. Excessive urination is ________________.

/ / / / / / / / / / / / / /

polyuria

/ / / / / / / / / / / / / /

32. Frequent or excessive is indicated by the prefix ________________.

/ / / / / / / / / / / / / /

poly

/ / / / / / / / / / / / / /

33. Excessive urination is called ______________________.

/ / / / / / / / / / / / / /

polyuria

/ / / / / / / / / / / / / /

34. A patient indicates that he has noticed a large increase in his urinary output. You would report to the nurse that your patient is experiencing the symptom of ____________________.

/ / / / / / / / / / / / / /

polyuria

/ / / / / / / / / / / / / /

35. The prefix "py" means pus. Using the prefix for pus and the term for urine construct a term that means having pus in the urine. ______________________

/ / / / / / / / / / / / / /

pyuria

/ / / / / / / / / / / / / /

36. The laboratory results of a urine test indicates the patient has pus in his urine The condition of pus in the urine is ________________________.

/ / / / / / / / / / / / / /

pyuria

/ / / / / / / / / / / / / /

37. Pyuria means __________ in the __________________.

/ / / / / / / / / / / / / /

pus - urine

/ / / / / / / / / / / / / /

38. Quiz

Fill in the blank to the left of each statement with the term that is best described by each statement.

a. ______________________ Decreased urinary output.

b. ______________________ Pus in the urine.

c. ______________________ Excessive urination.

d. ______________________ Excessive urination at night.

/ / / / / / / / / / / / / /

a. oliguria
b. pyuria
c. polyuria
d. nocturia

/ / / / / / / / / / / / / /

39. The act of passing urine is called voiding. A patient that is passing urine frequently is said to be __________________ frequently.

/ / / / / / / / / / / / / /

voiding

/ / / / / / / / / / / / / /

40. The act of passing urine may also be referred to as urination. The act of passing urine may be referred to as __________________ or ______________________.

/ / / / / / / / / / / / / /

voiding - urination

/ / / / / / / / / / / / / /

41. Residual urine is the urine remaining in the bladder after normal urination. When measuring the amount of urine left in the bladder after normal urination, you are measuring the __________________ __________________.

/ / / / / / / / / / / / / /

residual - urine

/ / / / / / / / / / / / / /

42. When you have finished voiding, you will still have some ______________________ urine left in the bladder.

/ / / / / / / / / / / / / /

residual

/ / / / / / / / / / / / / /

43. The normal amount of residual urine is very small. When residual urine volume is above normal, this condition is called retention.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

44. A more complete definition of retention is the secretion of urine by the kidneys with the urine being retained in the bladder. When urine is being secreted by the kidneys but being retained by the bladder, the condition is called urinary ______________.

/ / / / / / / / / / / / / /

retention

/ / / / / / / / / / / / / /

45. Urinary retention is the ____

____.

/ / / / / / / / / / / / / /

secretion of urine by the kidneys but being retained by the bladder

/ / / / / / / / / / / / / /

46. When the bladder becomes greatly distended and the patient voids only small amounts (25 - 35 ml) but is unable to empty the bladder, this condition is called retention with overflow. A patient that has retention and is voiding small amounts of urine but not emptying his bladder to a normal residual level has a symptom called retention with _________________________.

/ / / / / / / / / / / / / /

overflow

/ / / / / / / / / / / / / /

47. What is retention with overflow? ____

____

____.

/ / / / / / / / / / / / / /

When the bladder becomes greatly distended and the patient voids only small amounts (25 - 35 ml) without being able to empty his bladder.

/ / / / / / / / / / / / / /

48. Bladder distention is the enlarged state of the bladder due to the excessive urine in it. Enlargement of the bladder that is due to excessive urine is _______________ _______________.

/ / / / / / / / / / / / / /

bladder - distention

/ / / / / / / / / / / / / /

49. If a patient has urinary retention with overflow, you may also notice that he has _______________ _______________ due to the excessive urine build up.

/ / / / / / / / / / / / / /

bladder - distention

/ / / / / / / / / / / / / /

~~50.~~ If a person loses control over his bladder or bowels, he may experience a symptom called incontinence. Incontinence is the involuntary expulsion of urine or feces. A patient has not been able to hold back his urine and voids in bed. This is called _______________________.

/ / / / / / / / / / / / / /

incontinence

/ / / / / / / / / / / / / /

51. Incontinence is the ____

_______________________.

/ / / / / / / / / / / / / /

involuntary expulsion of urine or feces

/ / / / / / / / / / / / / /

52. Quiz

a. ______________________ The act of passing urine (urination).

b. ______________________ The enlargement of the bladder due to excessive amounts of urine in the bladder.

c. ______________________ Involuntary expulsion of urine or feces.

d. ______________________ Urine remaining in the bladder after normal voiding.

e. ______________________ Secretion of urine by the kidneys with the urine being retained in the bladder.

f. ______________________ The bladder is greatly distended, but the patient voids only small amounts of urine (25 - 35 ml) without being able to empty the bladder to a normal residual urine level.

/ / / / / / / / / / / / / /

a. voiding
b. bladder distention
c. incontinence
d. residual urine
e. retention
f. retention with overflow

/ / / / / / / / / / / / / /

53. Cysto: A Greek word meaning sac or bladder most frequently used in reference to the urinary bladder. A Greek word meaning sac or bladder is ____________________.

/ / / / / / / / / / / / / /

Cysto

/ / / / / / / / / / / / / /

54. A medical term often used in reference to the urinary bladder is ______________.

/ / / / / / / / / / / / / /

Cysto

/ / / / / / / / / / / / / /

55. "Scopy" is a suffix that means visual examination of. If a medical term ended with the suffix "scopy", you would know it meant ________________ ________________ ________ something.

/ / / / / / / / / / / / / /

visual examination of

/ / / / / / / / / / / / / /

56. Using a medical term for bladder and the suffix for visual examination of, construct a term that means visual examination of the urinary bladder. ______________________

/ / / / / / / / / / / / / /

cystoscopy

/ / / / / / / / / / / / / /

57. A cystoscope is a lighted instrument with a series of lenses and mirrors, passed through the urethra to visually examine the bladder.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

58. The urethra is a tube used for the elimination of urine, which passes from the bladder to the outside of the body.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

59. Urethritis is the inflammation of the ____________________________.

/ / / / / / / / / / / / / /

urethra

/ / / / / / / / / / / / / /

60. If a patient is diagnosed as having an inflammation of the urethra, you would indicate this diagnosis with the medical term ________________________.

/ / / / / / / / / / / / / /

urethritis

/ / / / / / / / / / / / / /

61. The prostate gland is located at the proximal end and completely surrounds the male urethra. The gland that is located at the proximal end and completely surrounds the male urethra is the ________________________ gland.

/ / / / / / / / / / / / / /

prostate

/ / / / / / / / / / / / / /

205

62. An inflammation of the prostate gland is expressed by the medical term ______________________________.

/ / / / / / / / / / / / / /

prostatitis

/ / / / / / / / / / / / / /

63. Prostatitis is the ____.

/ / / / / / / / / / / / / /

inflammation of the prostate gland

/ / / / / / / / / / / / / /

64. Using the medical term for bladder and the suffix for inflammation of, construct a term that means inflammation of the bladder. ___________________

/ / / / / / / / / / / / / /

cystitis

/ / / / / / / / / / / / / /

65. Cystitis is the ____.

/ / / / / / / / / / / / / /

inflammation of the bladder

/ / / / / / / / / / / / / /

66. Nephritis is an inflammation of the kidney. An inflammation of the kidney is called _______________________________.

/ / / / / / / / / / / / / /

nephritis

/ / / / / / / / / / / / / /

67. Nephritis is an ____.

/ / / / / / / / / / / / / /

inflammation of the kidney

/ / / / / / / / / / / / / /

68. Quiz

Fill in the blank to the left of each statement with the term that is best described by each statement.

a. ______________________ Direct visual examination of the urinary bladder.

b. ______________________ Inflammation of the prostate gland.

c. ______________________ Inflammation of the urethra.

d. ______________________ Inflammation of the kidney.

e. ______________________ Inflammation of the bladder.

/ / / / / / / / / / / / / /

a. cystoscopy
b. prostatitis
c. urethritis
d. nephritis
e. cystitis

/ / / / / / / / / / / / / /

69. Urinary calculi (cow-q-lie) are stones in the urinary tract. Stones in the urinary tract are called ________________ ________________.

/ / / / / / / / / / / / / /

urinary - calculi

/ / / / / / / / / / / / / /

70. If a doctor discovers stones in the urinary tract while reading a patient's X-ray, diagnosis will be ________________ ________________.

/ / / / / / / / / / / / / /

urinary - calculi

/ / / / / / / / / / / / / /

71. When urinary calculi pass through the ureters, from the kidneys to the bladder, it causes a great deal of pain. This pain is called renal colic. The pain produced from the passage of urinary calculi through the ureters is called ________________ ________________.

/ / / / / / / / / / / / / /

renal colic

/ / / / / / / / / / / / / /

72. Renal colic is the ____

____.

/ / / / / / / / / / / / / /

pain produced from the passage of urinary calculi through the ureters

/ / / / / / / / / / / / / /

73. When the kidneys do not filter the blood properly, a condition called uremia exists.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

74. Uremia (your-eem-e-a) is the accumulation of waste products in the blood. The accumulation of waste products in the blood is known by the medical term ______________.

/ / / / / / / / / / / / / /

uremia

/ / / / / / / / / / / / / /

75. Uremia is the ____.

/ / / / / / / / / / / / / /

accumulation of waste products in the blood

/ / / / / / / / / / / / / /

76. The waste products found in the blood of a uremia patient include urine constituents such as urea.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

77. Uremia is the accumulation of ____________ ______________ in the blood, which include urine constituents such as urea.

/ / / / / / / / / / / / / /

waste products

/ / / / / / / / / / / / / /

78. A complete description of uremia is the ____________________ of waste products in blood, which include ______________ constituents such as _______________.

/ / / / / / / / / / / / / /

accumulation - urine - urea

/ / / / / / / / / / / / / /

79. Define uremia. ____

____

____.

/ / / / / / / / / / / / / /

accumulation of waste products in the blood which include urine constituents such as urea.

/ / / / / / / / / / / / / /

80. Quiz

a. ________________________ pain produced by the passage of stones along a ureters.

b. ________________________ stones in the urinary tract.

c. ________________________ an accumulation of waste products in the blood. These waste products include urine constituents such as urea.

/ / / / / / / / / / / / / /

a. renal colic
b. urinary culculi
c. uremia

/ / / / / / / / / / / / / /

81. Phimosis (fi-mos-is) is a tightness of the penis foreskin. A tightness of the penis foreskin is ________________________.

/ / / / / / / / / / / / / /

phimosis

/ / / / / / / / / / / / / /

82. Phimosis is considered to be present when the foreskin cannot be drawn back over the glans. When is phimosis considered to be present?

____

/ / / / / / / / / / / / / /

when the foreskin cannot be drawn back over the glans

/ / / / / / / / / / / / / /

83. The surgical removal of all or part of the foreskin of the penis is called a circumcision. If a patient had all or part of his foreskin removed from the penis, he has had a ________________________.

/ / / / / / / / / / / / / / /

circumcision

/ / / / / / / / / / / / / / /

84. A circumcision is the surgical removal of _________ or _______________ of the _________________ from the penis.

/ / / / / / / / / / / / / / /

all - part - foreskin

/ / / / / / / / / / / / / / /

85. A surgical remedy for phimosis is a __________________________.

/ / / / / / / / / / / / / / /

circumcision

/ / / / / / / / / / / / / / /

86. Orchi (o) is a medical term for testes. A medical term for testes is _______________________.

/ / / / / / / / / / / / / / /

orchi (o)

/ / / / / / / / / / / / / / /

87. Cryptorchism (crip-tor'kism) is the failure of the testes to descend into the scrotum. The failure of the testes to descend into the scrotum is called _____________________________.

/ / / / / / / / / / / / / / /

cryptorchism

/ / / / / / / / / / / / / / /

88. A child is born with no testes in the scrotal sac. This condition is ____________________________.

/ / / / / / / / / / / / / / /

cryptorchism

/ / / / / / / / / / / / / / /

89. Cryptorchism, if left uncorrected after puberty, will result in sterility.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

90. Quiz

Fill in the blank to the left of each statement with the term that is best described by each statement.

a. ____________________ removal of all or part of the foreskin from the penis.

b. ____________________ failure of the testes to descend into the scrotum.

c. ____________________ tightness of the penis foreskin so that it cannot be drawn back over the glans.

/ / / / / / / / / / / / / /

a. Circumcision
b. Cryptorchism
c. Phimosis

/ / / / / / / / / / / / / /

OBSTETRICS

1. Obstetrics is a specialty of medicine that deals with pregnancy and the complications of pregnancy. You will now be concerned with those terms that are peculiar to this specialty.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

2. The medical term for pregnant is gravida. If you read gravida in the medical records of a woman, you would know it meant ____________________.

/ / / / / / / / / / / / / /

pregnant

/ / / / / / / / / / / / / /

3. If a woman stated she was pregnant, you would indicate this by using the term ____________________.

/ / / / / / / / / / / / / /

gravida

/ / / / / / / / / / / / / /

4. The number of babies a woman has delivered is indicated by the term para. If a woman had given birth to a baby, you would use the term ____________________.

/ / / / / / / / / / / / / /

para

/ / / / / / / / / / / / / /

5. If a woman is pregnant, but has not given birth to a baby, she is ________________ but not ____________.

/ / / / / / / / / / / / / /

gravida - para

/ / / / / / / / / / / / / /

6. The prefix "nulli" means not or without. A woman is pregnant but has never given birth to a child, she is said to be gravida and ______________________ para.

/ / / / / / / / / / / / / /

nulli

/ / / / / / / / / / / / / /

7. Using the prefix for not or without and the term for having given birth to a child, construct a term that means has not given birth to a child ______________________.

/ / / / / / / / / / / / / /

nullipara

/ / / / / / / / / / / / / /

8. The term that means a woman has not given birth to any children is ________________.

/ / / / / / / / / / / / / /

nullipara

/ / / / / / / / / / / / / /

9. The prefix "primi" means first. If you wanted to indicate that something is happening for the first time, you would use the prefix ____________________.

/ / / / / / / / / / / / / /

primi

/ / / / / / / / / / / / / /

10. Using the prefix for first and the term for pregnant. Construct a term that means a woman is pregnant for the first time. ______________________

/ / / / / / / / / / / / / /

primigravida

/ / / / / / / / / / / / / /

11. The term that indicates a woman is pregnant for the first time is ________________.

/ / / / / / / / / / / / / /

primigravida

/ / / / / / / / / / / / / /

12. Using the prefix for first and the term for given birth to a child, construct a term that means a woman has given birth to a child for the first time. ________________.

/ / / / / / / / / / / / / /

primipara

/ / / / / / / / / / / / / /

13. A woman has given birth to one child. She is said to be ____________________.

/ / / / / / / / / / / / / /

primipara

/ / / / / / / / / / / / / /

14. The prefix for second or subsequent is multi. If you wanted to indicate that something is occurring for the second or subsequent, you would use the prefix ____________________.

/ / / / / / / / / / / / / /

multi

/ / / / / / / / / / / / / /

15. Using the prefix for second or subsequent and the term for pregnant, construct a term that means a woman is pregnant for the second or subsequent time. ________________

/ / / / / / / / / / / / / /

multigravida

/ / / / / / / / / / / / / /

16. There are two women waiting to see the doctor. One woman is pregnant for the second time and the other is pregnant for the fourth time. Both these women are ______________________.

/ / / / / / / / / / / / / /

multigravida

/ / / / / / / / / / / / / /

17. Using the prefix for second or subsequent and the term for given birth to a child, construct a term that means a woman has given birth to two or more children.

____

/ / / / / / / / / / / / / / /

multipara

/ / / / / / / / / / / / / / /

18. The term that means a woman has given birth to two or more children is ______________________.

/ / / / / / / / / / / / / / /

multipara

/ / / / / / / / / / / / / / /

19. If a woman is pregnant for the second time and she has given birth to one child, she is said to be __________________ gravida and __________________ para.

/ / / / / / / / / / / / / / /

multi - primi

/ / / / / / / / / / / / / / /

20. When a woman is pregnant for the first time and has not given birth to a child she is said to be ____________________ and __________________.

/ / / / / / / / / / / / / / /

primigravida - nullipara

/ / / / / / / / / / / / / / /

21. Quiz

Fill in the blanks with the term that is most accurately described by the statement to the right.

a. ____________________ woman has not given birth to a child.

b. ____________________ pregnant.

c. ____________________ woman pregnant for the first time.

d. ____________________ the number of babies a woman has given birth to.

e. ____________________ woman has given birth to one child.

f. ____________________ woman has given birth to two or more children.

g. ____________________ woman is pregnant for the second or subsequent time.

/ / / / / / / / / / / / / /

a. nullipara
b. gravida
c. primigravida
d. para
e. primipara
f. multipara
g. multigravida

/ / / / / / / / / / / / / /

22. The monthly flow of blood from the uterus that contains destroyed uterine lining is called menses. Monthly a woman experiences a flow of blood from the uterus that contains destroyed uterine lining. This flow is identified by the medical term ______________________.

/ / / / / / / / / / / / / /

menses

/ / / / / / / / / / / / / /

23. A woman is being interviewed by a nurse prior to seeing the doctor. She tells the nurse that her monthly flow had started that morning. The nurse would indicate this situation by the term ________________________.

/ / / / / / / / / / / / / /

menses

/ / / / / / / / / / / / / /

24. In the reproductive process both the female and male contribute to the beginning stages of the new life. The female produces the ovum and the male produces the sperm.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

25. The ovum (ova is the plural of ovum) is the egg that is produced in the female. The female produces the egg which is called the ________________________.

/ / / / / / / / / / / / / /

ovum

/ / / / / / / / / / / / / /

26. The male produces the sperm. Sperm are a necessary part of the reproductive process because they fertilize the ovum. The male's contribution to the reproductive process is ______________________.

/ / / / / / / / / / / / / /

sperm

/ / / / / / / / / / / / / /

215

27. Fertilization is the impregnation of the ovum by a sperm. When a sperm impregnates an ovum we say ____________________ has taken place.

/ / / / / / / / / / / / / /

fertilization

/ / / / / / / / / / / / / /

28. Fertilization is sometimes referred to as conception. When the ovum is impregnated by a sperm we can say ____________________ or ____________________ has taken place.

/ / / / / / / / / / / / / /

fertilization - conception

/ / / / / / / / / / / / / /

29. The period of pregnancy is divided into three equal parts consisting of three months each. Each three month part is called a trimester. Pregnancy is divided into three month sections called ____________________.

/ / / / / / / / / / / / / /

trimesters

/ / / / / / / / / / / / / /

30. The first three month period would be referred to as the ____________________ ____________________.

/ / / / / / / / / / / / / /

first - trimester

/ / / / / / / / / / / / / /

31. The product of conception is called an embryo. After the ovum is impregnated by the sperm we call the result an ____________________.

/ / / / / / / / / / / / / /

embryo

/ / / / / / / / / / / / / /

32. The product of conception continues to be referred to as an embryo through the first trimester of pregnancy. If a woman is less than three full months into her pregnancy, we would say her uterus contains an ____________________.

/ / / / / / / / / / / / / /

embryo

/ / / / / / / / / / / / / /

33. The product of conception through the first trimester is referred to as an ______________________________.

/ / / / / / / / / / / / / /

embryo

/ / / / / / / / / / / / / /

34. After the first trimester the product of conception is referred to as a fetus. If a woman has been pregnant for more than three full months, we refer to the product of conception as a ___________________.

/ / / / / / / / / / / / / /

fetus

/ / / / / / / / / / / / / /

35. A woman has been pregnant for seven months. We say that her uterus contains the _________________________.

/ / / / / / / / / / / / / /

fetus

/ / / / / / / / / / / / / /

36. We continue to refer to the fetus until it is born. From the second trimester until _________________ the product of conception is referred to as a fetus.

/ / / / / / / / / / / / / /

birth

/ / / / / / / / / / / / / /

37. Viable means capable of sustaining life. If at birth an infant is capable of sustaining life, we say it is ________________________.

/ / / / / / / / / / / / / /

viable

/ / / / / / / / / / / / / /

38. Viable means ____.

/ / / / / / / / / / / / / /

capable of sustaining life

/ / / / / / / / / / / / / /

39. If the product of conception is expelled from the uterus before it is viable, we call this expulsion an abortion. A woman in the early stages of pregnancy expels a fetus from her uterus before it is viable. The expulsion is called an ________________.

/ / / / / / / / / / / / / /

abortion

/ / / / / / / / / / / / / /

40. An abortion is the ____

____.

/ / / / / / / / / / / / / /

expulsion of the product of conception before it is viable

/ / / / / / / / / / / / / /

41. Quiz

Fill in the blanks with the term that the statement most accurately describes.

a. ______________________________ product of conception through the first trimester.

b. ______________________________ monthly flow of blood from the uterus that contains destroyed uterine lining.

c. ______________________________ expulsion of product of conception before it is viable.

d. ______________________________ product of conception after the first trimester.

e. ______________________________ capable of sustaining life.

f. ______________________________ impregnation of an ovum by a sperm.

/ / / / / / / / / / / / / /

a. embryo
b. menses
c. abortion
d. fetus
e. viable
f. fertilization or conception

/ / / / / / / / / / / / / /

42. While the embryo develops other structures develop to support it. You will now be concerned with these structures and their functions.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

43. The amniotic (am'ne-otic) membrane is a membranous sac containing fluid inside which the embryo/fetus is contained. The embryo/fetus is contained in a membranous sac containing fluid. The sac is the ________________ ________________________.

/ / / / / / / / / / / / / /

amniotic - membrane

/ / / / / / / / / / / / / /

44. The amniotic membrane is a ____

____.

/ / / / / / / / / / / / / /

membranous sac filled with fluid that contains the embryo/fetus

/ / / / / / / / / / / / / /

45. Nutrients and oxygen are transported to the embryo/fetus and waste products are carried away through the umbilical cord. The function of the umbilical cord is to carry ___________________ to the embryo/fetus and carry _____________________ products away.

/ / / / / / / / / / / / / /

nutrients - waste

/ / / / / / / / / / / / / /

46. The nutrition that the embryo/fetus received from the mother must pass through the ______________ _____ _____________.

/ / / / / / / / / / / / / /

umbilical - cord

/ / / / / / / / / / / / / /

47. The umbilical cord transports ____

____.

/ / / / / / / / / / / / / /

nutrients and oxygen to the embryo/fetus and carries waste products away

/ / / / / / / / / / / / / /

48. At one end, the umbilical cord is attached to the embryo/fetus and the other end is attached to the placenta.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

49. The placenta is the temporary structure within the uterus which establishes communication between the mother and embryo/fetus through the umbilical cord. A temporary structure within the uterus that establishes communication between the mother and embryo/fetus through the umbilical cord is the ______________________.

/ / / / / / / / / / / / / /

placenta

/ / / / / / / / / / / / / /

50. The placenta is the ____

____

____.

/ / / / / / / / / / / / / /

temporary structure within the uterus, which establishes communication between the mother and embryo/fetus through the umbilical cord

/ / / / / / / / / / / / / /

51. Labor is the term that denotes the process by which the fetus, placenta, and membranes are expelled from the uterus. When the female body begins to expell the fetus, placenta, and membranes from the uterus. This is called ______________________.

/ / / / / / / / / / / / / /

labor

/ / / / / / / / / / / / / /

52. During the process of labor the ____________________, ______________________, and ______________________ are expelled from the uterus.

/ / / / / / / / / / / / / /

fetus - placenta - membranes

/ / / / / / / / / / / / / /

53. Quiz

To the left of each statement fill in the blank with the term that the statement best describes.

a. ____________________________ the temporary structure within the uterus, which establishes communication between the mother and embryo/fetus through the umbilical cord.

b. ____________________________ transports nutrients and oxygen to the embryo/fetus and carries waste away.

c. ____________________________ process by which the fetus, placenta, and membranes are expelled from the uterus.

d. ____________________________ membranous sac containing fluid, inside which the embryo/fetus is contained.

/ / / / / / / / / / / / / /

a. placenta
b. umbilical cord
c. labor
d. amniotic membrane

/ / / / / / / / / / / / / /

54. The cervix is the lower end of the uterus that surrounds the opening into the vagina. The fetus and menses flow pass through this opening.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

55. Cervical dilation is the stretching of the cervix beyond its normal dimensions. When the cervix is stretched beyond its normal dimensions, we refer to this as ______________________ __________________________.

/ / / / / / / / / / / / / /

cervical - dilation

/ / / / / / / / / / / / / /

56. Cervical dilation occurs normally during labor to allow the fetus to pass from the uterus to the vagina. When the female patient is in labor, the nurse will be checking the patient's cervix for ______________________ ______________________.

/ / / / / / / / / / / / / /

cervical - dilation

/ / / / / / / / / / / / / /

57. Cervical dilation is defined as the ____

____.

/ / / / / / / / / / / / / /

stretching of the cervix beyond its normal dimensions

/ / / / / / / / / / / / / /

58. The term for back portion or behind is posterior. To indicate that a structure is located behind another structure or the back portion of a body part we would use the term ___________________________.

/ / / / / / / / / / / / / /

posterior

/ / / / / / / / / / / / / /

59. The back portion of the body is the ______________________ part.

/ / / / / / / / / / / / / /

posterior

/ / / / / / / / / / / / / /

60. If a structure is located posterior to the vagina, it is located ______________ it.

/ / / / / / / / / / / / / /

behind

/ / / / / / / / / / / / / /

61. The perineum is the area between the posterior end of the vagina and the anus. To indicate the area between the posterior end of the vagina and the anus, you use the term ______________________.

/ / / / / / / / / / / / / /

perineum

/ / / / / / / / / / / / / /

62. An episiotomy is an incision of the perineum. An incision of the perinueum is an ______________________.

/ / / / / / / / / / / / / /

episiotomy

/ / / / / / / / / / / / / /

63. To prevent tearing of the perineum during child birth a doctor will make an incision in the perineum. This incision is an ______________________.

/ / / / / / / / / / / / / /

episiotomy

/ / / / / / / / / / / / / /

64. An episiotomy is an ____.

/ / / / / / / / / / / / / /

incision of the perineum

/ / / / / / / / / / / / / /

65. Quiz

Fill in the blank to the left of each statement with the term the statement most accurately describes.

a. ______________________________ the area between the posterior end of the vagina and anus.

b. ______________________________ the stretching of the cervix beyond its normal dimensions.

c. ______________________________ an incision of the perineum.

/ / / / / / / / / / / / / /

a. Perineum
b. Cervical dilation
c. Episiotomy

/ / / / / / / / / / / / / /

66. The prefix "pre" means before. A term that has the prefix "pre" is going to mean ____________________________ something.

/ / / / / / / / / / / / / /

before

/ / / / / / / / / / / / / /

67. When constructing a term that means before, you may use the prefix _______________.

/ / / / / / / / / / / / / /

pre

/ / / / / / / / / / / / / /

68. The term natal pertains to birth. Using the prefix for before and the term birth, construct a term that means occuring before birth. _________________________

/ / / / / / / / / / / / / /

prenatal

/ / / / / / / / / / / / / /

69. The term that means before birth is ____________________________.

/ / / / / / / / / / / / / /

prenatal

/ / / / / / / / / / / / / /

70. The care given to a pregnant patient prior to the birth of her child is called ________________ care.

/ / / / / / / / / / / / / /

prenatal

/ / / / / / / / / / / / / /

71. The prefix for after is post. If you read a medical term that contained the prefix post, you will know the term means ________________ something.

/ / / / / / / / / / / / / /

after

/ / / / / / / / / / / / / /

72. The time after delivery that it takes the female body to return to its prepregnant status is the postpartum period. A woman who has delivered a baby will notice that it takes time for her body to return to its prepregnant state. This period of time is the ______________________ period.

/ / / / / / / / / / / / / /

postpartum

/ / / / / / / / / / / / / /

73. There is a uterine discharge that occurs in the early postpartum period. This drainage is lochia (lo-key-ah). The uterine discharge that occurs in the early postpartum period is ________________.

/ / / / / / / / / / / / / /

lochia

/ / / / / / / / / / / / / /

74. For approximately ten days during postpartum, a woman will experience a discharge from her uterus. This drainage is ______________________.

/ / / / / / / / / / / / / /

lochia

/ / / / / / / / / / / / / /

75. Lochia is the ____

____.

/ / / / / / / / / / / / / /

uterine discharge that occurs in the early postpartum period

/ / / / / / / / / / / / / /

76. The mammary glands (located in the breasts of the female) secrete milk. This secretion of milk is called lactation. The secretion of milk is ____________________.

/ / / / / / / / / / / / / /

lactation

/ / / / / / / / / / / / / /

77. One of the changes in the female body is the ability of her mammary glands to secrete milk. This secretion of milk is ____________________.

/ / / / / / / / / / / / / /

lactation

/ / / / / / / / / / / / / /

78. Lactation is the _______________ _____ ____________.

/ / / / / / / / / / / / / /

secretion - of - milk

/ / / / / / / / / / / / / /

79. The next term is not concerned with the mother, but rather with the newborn infant.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

80. The first stool (bowel movement) of the newborn infant is called meconium. The first stool that an infant has is called ____________________.

/ / / / / / / / / / / / / /

meconium

/ / / / / / / / / / / / / /

81. Meconium consists of the materials swallowed by the infant while it was in the uterus. Meconium consists of the materials ______________________________________

____.

/ / / / / / / / / / / / / /

swallowed by the infant while it was in the uterus

/ / / / / / / / / / / / / /

82. Meconium is the first stool of the newborn infant. It contains material swallowed by the infant while in the ____________________.

/ / / / / / / / / / / / / /

uterus

/ / / / / / / / / / / / / /

83. Define meconium. ____

____

____.

/ / / / / / / / / / / / / /

Meconium is the first stool of the newborn infant. It contains material swallowed by the infant while in the uterus.

/ / / / / / / / / / / / / /

84. Quiz

Fill in the blanks with the term the statement best describes.

a. ____________________ before birth.

b. ____________________ secretion of milk.

c. ____________________ uterine discharge occurring early in the post-partum period.

d. ____________________ the first stool of the newborn infant. It contains the material swallowed by the infant while in the uterus.

/ / / / / / / / / / / / / /

a. prenatal
b. lactation
c. lochia
d. meconium

/ / / / / / / / / / / / / /

85. Quiz

Fill in the blanks to the left of each statement with the term that the statement most accurately describes.

a. ____________________ Product of conception after the first trimester.

b. ____________________ Monthly flow of blood from the uterus that contains destroyed uterine lining.

c. ____________________ The temporary structure within the uterus, which establishes communication between the mother and fetus/embryo through the umbilical cord.

d. ____________________ Before birth.

e. ____________________ Woman pregnant for the first time.

f. ____________________ Incision of the perineum.

g. ____________________ Secretion of milk.

h. ____________________ First stool from newborn, contains material swallowed by infant while in the uterus.

i. ____________________ Woman who has not had a child.

j. ____________________ Capable of sustaining life.

k. ____________________ Product of conception through the first trimester.

l. ____________________ Impregnation of ovum by a sperm.

m. ____________________ Process by which the fetus, placenta, and membranes are expelled from the uterus.

n. ____________________ Transports nutrients and oxygen to the embryo/fetus and carries waste products away.

o. ____________________ Uterine discharge during early postpartum period.

p. ____________________ Stretching of the cervix beyond its normal dimensions.

q. ____________________ Expulsion of the product of conception before they are viable.

r. ____________________ Woman who has given birth to two or more children.

s. ____________________ Woman who has given birth to her first child.

t. ____________________ Membranous sac containing fluid, inside which the fetus/embryo is contained.

//////////////

a. fetus
b. menses
c. placenta
d. prenatal
e. primigravida
f. episiotomy
g. lactation
h. meconium
i. nullipara
j. viable
k. embryo
l. fertilization
m. labor
n. umbilical cord
o. lochia
p. cervical dilation
q. abortion
r. multipara
s. primipara
t. amniotic membranes

//////////////

PEDIATRICS

1. The first part of the word pediatrics (ped (o)) is used in both the Greek and Latin context. If the origin is Greek then the term means child. If, however, it is taken from the Latin origin, it means foot. For this reason terms that contain ped (o) often must be memorized.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

2. Pediatrics is the branch of medicine that is concerned with childhood diseases, care, and development. The branch of medicine that is concerned with childhood diseases, care, and development is ____________________.

/ / / / / / / / / / / / / /

pediatrics

/ / / / / / / / / / / / / /

3. Pediatrics is the branch of medicine that is concerned with ____________________ ____________________, ________________, and ______________________.

/ / / / / / / / / / / / / /

childhood - diseases - care - development

/ / / / / / / / / / / / / /

4. Pediatrics is the ____ ____.

/ / / / / / / / / / / / / /

branch of medicine that is concerned with childhood diseases, care, and development.

/ / / / / / / / / / / / / /

5. A child who is admitted to the hospital will be admitted to the __________________ service.

/ / / / / / / / / / / / / /

pediatric

/ / / / / / / / / / / / / /

6. Development is the progression from a lower to a higher stage. The progression from a lower to a higher stage is ________________________.

/ / / / / / / / / / / / / /

development

/ / / / / / / / / / / / / /

7. The progression of the human ovum (egg) to the mature adult human being is generally referred to as ______________________________.

/ / / / / / / / / / / / / /

development

/ / / / / / / / / / / / / /

8. Development is both physical and emotional.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

9. In development one notices a change in function, and adjustment to the environment. In development one notices changes in ________________________, and ____________________ to the ____________________.

/ / / / / / / / / / / / / /

function - adjustment - environment

/ / / / / / / / / / / / / /

10. A full description of development may be stated as "progression from a lower to a higher stage". This will include changes in function and adjustment to the environment.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

11. Give a full description of development. ____
____
____.

/ / / / / / / / / / / / / /

progression from a lower to a higher stage. This will include changes in function and adjustment to the environment

/ / / / / / / / / / / / / /

12. An increase in size is known as growth. If an individual increases in size we say he is experiencing ____________________.

/ / / / / / / / / / / / / /

growth

/ / / / / / / / / / / / / /

13. If one is concerned with the increase in size of an individual, and not considering any change in function or adjustment to environment, he is concerned with the ____________________ of that person.

//////////////

growth

//////////////

14. John has increased in size from 45 inches to 49 inches in six months. This is an example of ________________.

//////////////

growth

//////////////

15. Mary is 12 years old and has begun to menstruate (have her period) for the first time. This is an example of ________________________.

//////////////

development

//////////////

16. Two main factors effect growth and development. They are heredity and environment. The two main factors that affect growth and development are ______________________ and ______________________.

//////////////

heredity - environment

//////////////

17. Heredity is the passing of particular characteristics from parents to children. The passing of certain characteristics from parents to children is a definition of ______________________.

//////////////

heredity

//////////////

18. Environment is the total external surroundings of an individual. The total external surroundings of an individual is his __________________________.

//////////////

environment

//////////////

19. An individual's home, neighborhood, and school are all examples of his ____________________________.

/ / / / / / / / / / / / / /

environment

/ / / / / / / / / / / / / /

20. Individual development is affected by many factors. Heredity and environment are examples of factors that affect an individual's __________________________.

/ / / / / / / / / / / / / /

development

/ / / / / / / / / / / / / /

21. The stage of life at which an individual is both chronologically and emotionally fully developed is known as maturity. If a person is fully developed both chronologically and emotionally, he is said to have reached ______________________.

/ / / / / / / / / / / / / /

maturity

/ / / / / / / / / / / / / /

22. Maturity is the stage of life at which a person is said to be fully developed _______________________________ and _________________________.

/ / / / / / / / / / / / / /

chronologically - emotionally

/ / / / / / / / / / / / / /

23. When a person is ________________ _________________________ chronologically and emotionally, he is said to be mature.

/ / / / / / / / / / / / / /

fully - developed

/ / / / / / / / / / / / / /

24. A sibling is a brother or sister. A brother or sister is a ______________________.

/ / / / / / / / / / / / / /

sibling

/ / / / / / / / / / / / / /

25. John has two sisters and three brothers. John has ____________ siblings.

/ / / / / / / / / / / / / /

five

/ / / / / / / / / / / / / /

26. A sibling is a ____________________ or __________________.

/ / / / / / / / / / / / / /

brother - sister

/ / / / / / / / / / / / / /

27. Quiz

Fill in the blank to the left of each statement with the term that is best described by that statement.

a. ______________________ An increase in size of an individual.

b. ______________________ The stage in life at which a person is fully developed both emotionally and physically.

c. ______________________ The passing of characteristics from parents to children.

d. ______________________ Progressing from a lower to a higher stage, with a change in function, adjusting to the environment.

e. ______________________ That branch of medicine that deals with children diseases, care, and development.

/ / / / / / / / / / / / / /

a. growth
b. maturity
c. heredity
d. development
e. pediatrics

/ / / / / / / / / / / / / /

28. When we want to indicate a condition existed at birth, we use the term congenital (con-jen-ital). If a condition existed at birth, we say it is a ____________________ condition.

/ / / / / / / / / / / / / /

congenital

/ / / / / / / / / / / / / /

29. A child is born with a heart condition. To indicate this we say the child has a __________________ heart condition.

/ / / / / / / / / / / / / /

congenital

/ / / / / / / / / / / / / /

30. To indicate a condition is other then normal we use the term anomaly. Anomaly means a condition is __________ __________ __________.

/ / / / / / / / / / / / / /

other - than - normal

/ / / / / / / / / / / / / /

31. A condition that is other than normal is an ______________________.

/ / / / / / / / / / / / / /

anomaly

/ / / / / / / / / / / / / /

32. Using the medical term for heart, existing at birth, and other then normal construct a medical phrase that means an abnormal condition of the heart that existed at birth.

______________ __________ ____________

/ / / / / / / / / / / / / /

congenital - cardiac - anomaly

/ / / / / / / / / / / / / /

33. Lethargy (leth-are-je) is a state of mental drowsiness. A state of mental drowsiness is ____________________.

/ / / / / / / / / / / / / /

lethargy

/ / / / / / / / / / / / / /

34. Lethargy is the state of _______________ ____________________.

/ / / / / / / / / / / / / /

mental drowsiness

/ / / / / / / / / / / / / /

35. Define lethergy. ____

/ / / / / / / / / / / / / /

State of mental drowsiness.

/ / / / / / / / / / / / / /

36. Spotting of the skin with patches of color due to circulatory impairment is called mottling (mot-ling). Spotting of the skin with patches of color due to circulatory impairment is ______________________.

/ / / / / / / / / / / / / / /

mottling

/ / / / / / / / / / / / / / /

37. Mottling is the ____

____.

/ / / / / / / / / / / / / / /

spotting of the skin with patches of color due to circulatory impairment

/ / / / / / / / / / / / / / /

38. Quiz

Fill in the blanks to the left of each statement with the term that is best described by that statement.

a. ______________________ A state of mental drowsiness.

b. ______________________ Other than normal.

c. ______________________ Existing at birth.

d. ______________________ Spotting of the skin with patches of color due to circulatory impairment.

/ / / / / / / / / / / / / / /

a. lethargy
b. anomaly
c. congenital
d. mottling

/ / / / / / / / / / / / / / /

39. Pediatric medications are given in very small doses and therefore require tools that can accurately measure and administer these medications exactly as the patient's doctor intended them to be administered.

/ / / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / / /

40. A pediatric intravenous fluid regulator is called a microdrip. A microdrip is used to administer ________________ __________ to a child.

/ / / / / / / / / / / / / / /

intravenous fluids

/ / / / / / / / / / / / / / /

41. The drops that are formed in a microdrip regulator are 1/10 (0.1) the size of a normal drop of solution. If you see a microdrip regulator being used to administer intravenous fluids to a pediatric patient, you would know that it takes __________ microdrops to equal one (1) normal drop.

/ / / / / / / / / / / / / /

ten (10)

/ / / / / / / / / / / / / /

42. A microdrip regulator used to administer intravenous fluids to pediatric patients delivers drops that are 1/10 (0.1) the size of a normal drop.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

43. What is a microdrip? ____

____.

/ / / / / / / / / / / / / /

it is a intravenous regulator used to administer intravenous fluids to pediatric patients. Its drops are 1/10 the size of a normal drop.

/ / / / / / / / / / / / / /

44. A croupette is a tent-like apparatus used to administer oxygen to a child. A tent-like apparatus used to administer oxygen to a child is called a ____________________.

/ / / / / / / / / / / / / /

croupette

/ / / / / / / / / / / / / /

45. The croupette may also provide moistened atmosphere for a child to breathe. Besides being used to administer ____________________.

/ / / / / / / / / / / / / /

moisture

/ / / / / / / / / / / / / /

46. The moisture in a croupette is dispensed in the form of a mist. This moisture in a croupette is dispensed in the form of a ______________.

/ / / / / / / / / / / / / /

mist

/ / / / / / / / / / / / / /

47. The croupette can be used to administer oxygen and moisture croupette may be used to administer oxygen or moisture separately or administer both at the ______________ time.

/ / / / / / / / / / / / / /

same

/ / / / / / / / / / / / / /

48. The croupette is known by several names. Some of them are Vap O_2 (vape-o-2) tent, mist tent, or croup tent. Three other names for a croupette are ______________ __________, __________ ____________ or ________________ _________.

/ / / / / / / / / / / / / /

Vap O_2 tent - mist tent - croup tent

/ / / / / / / / / / / / / /

49. What is a croupette? ____

____.

/ / / / / / / / / / / / / /

a tent-like apparatus used to administer oxygen
and/or moisture to a child

/ / / / / / / / / / / / / /

50. Quiz

Fill in the blanks to the left of each statement with the term that the statement best describes.

a. ____________________________ A pediatric I.V. fluid regulator that administers drops 1/10 the size of a normal drop.

b. ____________________________ A tent-like apparatus that is used to administer oxygen and for moisture to a pediatric patient.

/ / / / / / / / / / / / / /

a. microdrip
b. croupette

/ / / / / / / / / / / / / /

NEUROLOGY

1. Paralysis is the loss or impairment of motor function to any part of the body. Loss or impairment of motor function to any part of the body is called ____________________.

/ / / / / / / / / / / / / /

paralysis

/ / / / / / / / / / / / / /

2. Paralysis is loss or impairment of _______________ _____________________ to any part of the body.

/ / / / / / / / / / / / / /

motor - function

/ / / / / / / / / / / / / /

3. Direct injuries, tumors, stroke or infectious diseases could cause loss or impairment of motor function to any part of the body. The term for this condition is ______________.

/ / / / / / / / / / / / / /

paralysis

/ / / / / / / / / / / / / /

4. Paraplegia is paralysis of all the lower extremities, which may include the bladder and rectum. Injury to the lumbar or thoracic regions also may cause paraplegia.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

5. Paraplegia is paralysis of all the ________________ ______________________.

/ / / / / / / / / / / / / /

lower - extremities

/ / / / / / / / / / / / / /

6. Paraplegia may include the ___________________ and __________________.

/ / / / / / / / / / / / / /

bladder - rectum

/ / / / / / / / / / / / / /

7. Paraplegia may result from injury to the ________________ or ________________ regions.

/ / / / / / / / / / / / / /

lumbar - thoracic

/ / / / / / / / / / / / / /

8. Paralysis of all the lower extremities, and which may include the bladder and rectum due to injury to the lumbar or thoracic region is called ________________________.

/ / / / / / / / / / / / / /

paraplegia

/ / / / / / / / / / / / / /

9. Quadriplegia is the paralysis of all four extremities and may also include the trunk. Paralysis of all four extremities which may also include the trunk is called ______________________.

/ / / / / / / / / / / / / /

quadriplegia

/ / / / / / / / / / / / / /

10. Quadriplegia is ____

____.

/ / / / / / / / / / / / / /

paralysis of all four extremities may also include the trunk

/ / / / / / / / / / / / / /

11. A patient is admitted to your ward with an injury to the spinal cord resulting in paralysis of all four extremities. The term for this condition is __________________.

/ / / / / / / / / / / / / /

quadriplegia

/ / / / / / / / / / / / / /

12. Hemiplegia is paralysis of one side of the body. Paralysis of one side of the body is called ______________________.

/ / / / / / / / / / / / / /

hemiplegia

/ / / / / / / / / / / / / /

13. Hemiplegia is ____

____.

/ / / / / / / / / / / / / /

paralysis of one side of the body

/ / / / / / / / / / / / / /

14. When a patient complains of paralysis on one side of his body, the term for this paralysis is ________________________.

/ / / / / / / / / / / / / /

hemiplegia

/ / / / / / / / / / / / / /

15. If a person was in a car accident and sustained a head injury, he might have pressure inside the cranium caused by swelling or blood loss. The term for this condition is intracranial pressure.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

16. Pressure inside the cranium caused by swelling or blood loss is called

____________________ ____________________.

/ / / / / / / / / / / / / /

intracranial - pressure

/ / / / / / / / / / / / / /

17. Intracranial pressure is __________________ ________________________________

____.

/ / / / / / / / / / / / / /

pressure inside the cranium caused by swelling or blood loss

/ / / / / / / / / / / / / /

18. Neurological disorder is a broad term given to any disease or injury to the nervous system. The term given to any disease or injury to the nervous system is ______________ __________________.

/ / / / / / / / / / / / / /

neurological - disorder

/ / / / / / / / / / / / / /

19. Neuritis is an inflammation of the nerve fibers. Neuritis is an example of a __________________________ disorder.

/ / / / / / / / / / / / / / /

neurological

/ / / / / / / / / / / / / / /

20. A neurological disorder is any ____

____.

/ / / / / / / / / / / / / / /

disease or injury to the nervous system

/ / / / / / / / / / / / / / /

21. Unconscious means not aware of surroundings, or not receiving any sensory impressions. The prefix un - means not -, and the term conscious means capable of responding to sensory stimuli.

/ / / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / / /

22. If a person suffered a "stroke", head injury, electric shock, or shock and did not respond to sensory stimuli, he would be __________________________.

/ / / / / / / / / / / / / / /

unconscious

/ / / / / / / / / / / / / / /

23. Unconscious means ____

____.

/ / / / / / / / / / / / / / /

not aware of surroundings, not receiving any sensory impressions

/ / / / / / / / / / / / / / /

24. Concussion is a jarring of the brain. A jarring of the brain is a

________________________.

/ / / / / / / / / / / / / / /

concussion

/ / / / / / / / / / / / / / /

25. A violent blow or an injury from a fall which causes jarring of the brain is called a ______________________________.

/ / / / / / / / / / / / / /

concussion

/ / / / / / / / / / / / / /

26. Concussion is a ____.

/ / / / / / / / / / / / / /

jarring of the brain

/ / / / / / / / / / / / / /

27. Stroke - (Cerebrovascular accident - CVA) is damage to brain tissue as a result of an inadequate blood supply to parts of the brain.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

28. Stroke is also called __________________________ ____________________.

/ / / / / / / / / / / / / /

cerebrovascular - accident

/ / / / / / / / / / / / / /

29. The results of a "stroke" is ____ because of an ____.

/ / / / / / / / / / / / / /

damage to brain tissue - inadequate blood supply

/ / / / / / / / / / / / / /

30. If a patient had a blood clot in a blood vessel (an embolus) or a rupturing of an artery in the brain, he may have a ___________________.

/ / / / / / / / / / / / / /

stroke

/ / / / / / / / / / / / / /

31. Cerebrovascular accident (CVA) (stroke) is ___________________________________
____
____.

/ / / / / / / / / / / / / /

damage to brain tissue as a result of an inadequate
blood supply to part of the brain

/ / / / / / / / / / / / / /

32. Quiz

Match the terms in column "A" with the definition in column "B". Put the letter to the left of the definition in the space provided to the left of the term.

Column A

(1) _____ paralysis

(2) _____ quadraplegia

(3) _____ stroke

(4) _____ concussion

(5) _____ unconscious

(6) _____ intracranial pressure

Column B

a. A jarring of the brain.

b. Pressure inside the cranium caused by swelling or blood loss.

c. Loss or impairment of motor function to any part of the body.

d. Not aware of surroundings not receiving any sensory impression.

e. Paralysis of all four extremities, may also include the trunk.

f. Damage to brain tissue as a result of an inadequate blood supply to parts of the brain.

/ / / / / / / / / / / / / /

(1) c , (2) e , (3) f , (4) a , (5) d , (6) b

/ / / / / / / / / / / / / /

ADMINISTRATION OF MEDICATIONS

1. Any substance taken internally or used externally to alter normal physiological response is the definition of a drug. A drug is defined as ____.

/ / / / / / / / / / / / / /

any substance taken internally or used externally to
alter normal physiological response

/ / / / / / / / / / / / / /

2. Drugs are often classified as prescription or nonprescription drugs. Nonprescription drugs may be purchased without the order of a doctor. An example of nonprescription drugs would be aspirin.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

3. The word ending (suffix) OLOGY means the study of. If you read a word that ended with OLOGY you would know it meant the ______________ _____ something.

/ / / / / / / / / / / / / /

study of

/ / / / / / / / / / / / / /

4. The word pharmac(o) denotes a relationship with drugs. To read a term starting with pharmac(o) would be reading a term dealing with ___________________.

/ / / / / / / / / / / / / /

drugs

/ / / / / / / / / / / / / /

5. Make a word using pharmac(o) and ology that means the study of drugs and their actions on the body. __________________________

/ / / / / / / / / / / / / /

pharmacology

/ / / / / / / / / / / / / /

6. The act of preparing and dispensing drugs is called pharmacy. Pharmacy is the act of ____________________ and ______________________ drugs.

/ / / / / / / / / / / / / /

preparing - dispensing

/ / / / / / / / / / / / / /

7. Because drugs are compounded, prepared and dispensed in a central place the place has also been identified as a pharmacy. A place where drugs are compounded, prepared and dispensed is called a _____________________.

/ / / / / / / / / / / / / /

pharmacy

/ / / / / / / / / / / / / /

8. The art of preparing and dispensing drugs or a place where drugs are compounded, prepared and dispensed are both definitions of ______________________.

/ / / / / / / / / / / / / /

pharmacy

/ / / / / / / / / / / / / /

9. A toxin is a poison. If a substance is poisonous (toxic) you would say that substance was a __________________.

/ / / / / / / / / / / / / /

toxin

/ / / / / / / / / / / / / /

10. Now use the term TOXIC and an ending that means study of, to make a word that means the study of poisons. ______________________

/ / / / / / / / / / / / / /

toxicology

/ / / / / / / / / / / / / /

11. Toxicology deals with recognition of the signs and symptoms, the identification and treatment of poisons. In specializing in toxicology a person is specializing in the ____

____.

/ / / / / / / / / / / / / /

recognition of the signs and symptoms, the identification,
and treatment of poisons.

/ / / / / / / / / / / / / /

12. Fill in the blanks to the left of each definition with the term that is being defined.

a. __________________ The study of drugs and their actions on the body.

b. __________________ The art of preparing and dispensing drugs.

c. __________________ Any substance taken internally or used externally to alter normal physiological response.

d. __________________ The study of poisons. It deals with recognition of signs and symptoms, identification, and treatment of poisonings.

e. __________________ A place where drugs are compounded, prepared and dispensed.

/ / / / / / / / / / / / / /

a. Pharmacology
b. Pharmacy
c. Drug
d. Toxicology
e. Pharmacy

/ / / / / / / / / / / / / /

13. The next terms will concern factors that effect the actions of drugs on the body.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

14. The body's ability to deal with a substance without obvious signs or symptoms of change is tolerance. Tolerance is the body's ability to deal with substances ____________________ obvious _______________ or ______________________ of change.

/ / / / / / / / / / / / / /

without - signs - symptoms

/ / / / / / / / / / / / / /

15. If a person is given aspirin for pain and there is no visible change in the pain the patient is suffering, we would say this patient has a _______________________ to aspirin.

/ / / / / / / / / / / / / /

tolerance

/ / / / / / / / / / / / / /

16. Tolerance may also refer to the body's increasing resistance to a drug. If we are describing the body's increasing resistance to a drug we are describing _________________.

/ / / / / / / / / / / / / /

tolerance

/ / / / / / / / / / / / / /

17. If an arthritic patient is taking 10 grains of aspirin for pain and complains that it does not relieve the pain as completely as it used to, he will now require more of the aspirin to do the job. The patient's body is building a __________________________ to the aspirin.

/ / / / / / / / / / / / / /

tolerance

/ / / / / / / / / / / / / /

18. Tolerance is only one factor that effects the action of drugs on the body. A person may become accustomed to something from frequent use. This involves mainly an emotional need and is called habituation. The act of becoming accustomed to something from frequent use is ______________________________.

/ / / / / / / / / / / / / /

habituation

/ / / / / / / / / / / / / /

19. Habituation is mainly an ____________________________ need.

/ / / / / / / / / / / / / /

emotional

/ / / / / / / / / / / / / /

20. Cigarette smoking is an example of ____________________________.

/ / / / / / / / / / / / / /

habituation

/ / / / / / / / / / / / / /

21 Fully describe habituation. ____

____

____.

/ / / / / / / / / / / / / /

Act of becoming accustomed to something from frequent use.
Involves mainly an emotional need.

22. When a person develops a physical need as well as an emotional need for a drug this is called addiction. Addiction is the ______________________ need as well as the ________________________ need for a drug.

/ / / / / / / / / / / / / /

physical - emotional

/ / / / / / / / / / / / / /

23. Addiction differs from habituation in that it not only includes an emotional need for a drug but also a ____________________ need.

/ / / / / / / / / / / / / /

physical

/ / / / / / / / / / / / / /

24. Morphine is a drug that has addictive properties. This means that a patient may develop a ____.

/ / / / / / / / / / / / / /

physical and emotional need for the drug

/ / / / / / / / / / / / / /

25. Unexpected reactions to a drug do occur occasionally. When this type occurs it is called an idiosyncrasy. An unexpected response to a drug is called an ____________________.

/ / / / / / / / / / / / / /

idiosyncrasy

/ / / / / / / / / / / / / /

26. An idiosyncrasy may take the form of an opposite effect. If you gave a patient a drug to quiet him down and he became excited, this reaction would be termed an ____________________.

/ / / / / / / / / / / / / /

idiosyncrasy

/ / / / / / / / / / / / / /

27. Still another form of idiosyncrasy would be when a patient received a small dosage of a medication and developed a toxic condition. Small amounts of a medication developing a toxic condition in the patient may be termed ____________________.

/ / / / / / / / / / / / / /

idiosyncrasy

/ / / / / / / / / / / / / /

28. Another form of idiosyncrasy could be one of no effect. When a patient received a drug to calm him and there were no visible changes in his behavior we may attribute this to an ____________________.

/ / / / / / / / / / / / / /

idiosyncrasy

/ / / / / / / / / / / / / /

29. Idiosyncrasy is defined as an unexpected response to a drug. This unexpected response may take the form of a toxic condition from small dosages, opposite effect, or no effect at all. The three forms an idiosyncrasy can take are:

a. ________________________________

b. ________________________________

c. ________________________________

/ / / / / / / / / / / / / /

a. Toxic condition from small dosage of medication
b. Opposite effect
c. No effect

/ / / / / / / / / / / / / /

30. An idiosyncrasy is an ____________________ ______________ to a drug.

/ / / / / / / / / / / / / /

unexpected response

/ / / / / / / / / / / / / /

31. The prefix HYPER placed at the beginning of a word means exaggerated, high, or increased. If a patient has an exaggerated sensitivity we would say he is __________ sensitive.

/ / / / / / / / / / / / / /

hyper

/ / / / / / / / / / / / / /

32. A hypersensitive response to a substance is called an allergy. If a patient has a hypersensitive response to any substance we say he has an ___________________.

/ / / / / / / / / / / / / /

allergy

/ / / / / / / / / / / / / /

33. Often in the administration of medications the body will respond to a drug in a particular way because of a second drug it has been given. The next two terms explain these possibilities.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

34. When one drug is given to strengthen the action of another drug we say it is given for its synergistic value (sin-er-gis-tic). The action of one drug strengthening the action of another drug is the definition of _______________________ action.

/ / / / / / / / / / / / / /

synergistic

/ / / / / / / / / / / / / /

35. A patient is developing a tolerance to a pain medication. This patient is given a tranquilizer along with the pain medication to make the pain medication stronger. The tranquilizer is given for its _______________________ value.

/ / / / / / / / / / / / / /

synergistic

/ / / / / / / / / / / / / /

36. The definition of synergistic is the action of ______________________________

____.

/ / / / / / / / / / / / / /

one drug strengthening the action of another drug

/ / / / / / / / / / / / / /

37. When one drug has the opposite effect or neutralizes a second drug we call this action antagonistic (an-tag-on-is-tik). If a drug is given that has the opposite effect or neutralizes a prior drug it is said to have an ______________________ action toward that drug.

/ / / / / / / / / / / / / /

antagonistic

/ / / / / / / / / / / / / /

38. A drug that stimulates a patient would be antagonistic to a drug that __________ a patient.

/ / / / / / / / / / / / / /

calms (or something meaning the same)

/ / / / / / / / / / / / / /

39. An alkaline material is used to neutralize an acid material. We are using the alkaline material for its ________________________ properties.

/ / / / / / / / / / / / / /

antagonistic

/ / / / / / / / / / / / / /

40. Antagonistic is defined as a drug having the ________________________________

____.

/ / / / / / / / / / / / / /

opposite effect or neutralizing effect on another drug.

/ / / / / / / / / / / / / /

41. Quiz

Fill in the space to the left of each statement with the term the statement most accurately describes.

a. ______________________________ Unexpected response. May be a small dosage causing a toxic effect, opposite effect, or no effect at all.

b. ______________________________ Development of a physical and emotional need for a drug.

c. ______________________________ The body's ability to deal with a substance without obvious signs or symptoms.

d. ______________________________ Act of becoming accustomed to something from frequent use. Involves mainly emotional needs.

e. ______________________________ One drug strengthening the action of another drug.

f. ______________________________ A hypersensitive response to a substance.

g. ______________________________ A drug having an opposite or neutralizing effect on another drug.

h. ______________________________ The body's increasing resistance to a drug.

/ / / / / / / / / / / / / /

a. Idiosyncrasy
b. Addiction
c. Tolerance
d. Habituation
e. Synergistic
f. Allergy
g. Antagonistic
h. Tolerance

/ / / / / / / / / / / / / /

42. Drugs are grouped in various ways. They may be grouped by what they do to the body, where they do it, or in what way they do the job. The next portion of this program on medication will concern itself with what the drugs do. We will define groups of drugs by explaining what they do.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

43. A substance that is able to retard the growth of microorganisms is classified as an antiseptic. An antiseptic is able to ________________ the growth of microorganisms.

/ / / / / / / / / / / / / /

retard

/ / / / / / / / / / / / / /

44. Alcohol retards the growth of microorganisms. Alcohol is an ____________________.

/ / / / / / / / / / / / / /

antiseptic

/ / / / / / / / / / / / / /

45. An antacid is a drug that neutralizes acidity especially in the gastrointestinal tract (stomach and intestines). Maalox is a medication that neutralizes acids in the gastrointestinal tract. Maalox is an ____________________________.

/ / / / / / / / / / / / / /

antacid

/ / / / / / / / / / / / / /

46. If we wanted to make the patient vomit we would use an emetic. Syrup of Ipecac is a drug that produces vomiting. Syrup of Ipecac is an ________________________.

/ / / / / / / / / / / / / /

emetic

/ / / / / / / / / / / / / /

47. A doctor wants to administer an emetic to a patient. After the patient is given the medication you can expect him to ______________________.

/ / / / / / / / / / / / / /

vomit

/ / / / / / / / / / / / / /

48. The prefix ANTI before a word means against or opposite. If you wanted to make a word that was the opposite of, you may use the prefix ___________________.

/ / / / / / / / / / / / / /

anti

/ / / / / / / / / / / / / /

49. If you wanted to stop vomiting or nausea you could do it by administering an ______________ emetic.

/ / / / / / / / / / / / / /

anti

/ / / / / / / / / / / / / /

50. Make a word using anti and emetic which means the remedy for nausea and vomiting.

____

/ / / / / / / / / / / / / /

antiemetic

/ / / / / / / / / / / / / /

51. A drug that is a mild stimulant to bowel evacuation is a laxative. If the desired action was a mild stimulus to make the bowels evacuate, a ____________________ would be used.

/ / / / / / / / / / / / / /

laxative

/ / / / / / / / / / / / / /

52. A laxative is a ____.

/ / / / / / / / / / / / / /

mild stimulant to bowel evacuation

/ / / / / / / / / / / / / /

53. If a strong stimulus to a bowel evacuation is needed we would use a cathartic (kath are tik). A strong stimulus to bowel evacuation is a drug group called ____________________________.

/ / / / / / / / / / / / / /

cathartics

/ / / / / / / / / / / / / /

54. What is the difference between a laxative and a cathartic? ____________________

____

____.

/ / / / / / / / / / / / / /

Laxative is a mild stimulus to bowel evacuation;
cathartic is a strong stimulus to bowel evacuation.

/ / / / / / / / / / / / / /

55. A sudden, violent, involuntary contraction of a muscle or group of muscles is called a spasm. When a doctor states a patient is having a violent, involuntary contraction of a group of muscles, he is describing a ________________.

/ / / / / / / / / / / / / /

spasm

/ / / / / / / / / / / / / /

56. Using the prefix that means against and the word spasmodic write a word that means a medicine that relieves spasms. ________________________.

/ / / / / / / / / / / / / /

antispasmodic

/ / / / / / / / / / / / / /

57. A patient is experiencing a spasm of the muscles of the intestines. You may expect the physician to select a drug from the group called ____________________s.

/ / / / / / / / / / / / / /

antispasmodic(s)

/ / / / / / / / / / / / / /

58. Quiz

Fill in the blank to the left of the statement with the term that is most accurately described by that statement.

a. ____________________ a substance which is able to retard the growth of microorganisms.

b. ____________________ a substance which neutralizes acidity especially in the digestive tract.

c. ____________________ a substance which produces vomiting.

d. ____________________ a remedy for nausea and vomiting.

e. ____________________ a mild stimulant to bowel evacuation.

f. ____________________ a strong stimulant to bowel evaucation.

g. ____________________ a drug that relieves spasms.

/ / / / / / / / / / / / / /

a. Antiseptic
b. Antacid
c. Emetic
d. Antimetic
e. Laxative
f. Cathartic
g. Antispasmodic

/ / / / / / / / / / / / / /

59. A medicine which loosens and encourages removal of the secretions of the respiratory tract is called an expectorant. If a patient requires a drug to loosen and encourage removal of secretions from the respiratory tract he requires a drug from the ____________________ group.

/ / / / / / / / / / / / / /

expectorant

/ / / / / / / / / / / / / /

60. The doctor orders an expectorant for his patient. He asks you to explain to the patient the purpose of the medicine. You would tell the patient the medication will

____

____.

/ / / / / / / / / / / / / / /

loosen and encourage removal of secretions of the respiratory tract (or words meaning the same)

/ / / / / / / / / / / / / / /

61. Each lung contains a network of tubes leading from the trachea to all areas of the lungs. These are collectively called Bronchial tubes. When we want to designate this part of the lung we use a combination form of the word Broncho. If you see Broncho in a word you know it deals with the ____________________ tubes of the lungs.

/ / / / / / / / / / / / / / /

Bronchial

/ / / / / / / / / / / / / / /

62. A drug used to relax muscle spasms in the bronchial tree dilates the tubes. With this information make a word that means a drug that relaxes muscle spasms in the bronchial tree: Use combination form of Bronchial and the word dilator.

____

/ / / / / / / / / / / / / / /

Bronchodilator

/ / / / / / / / / / / / / / /

63. The doctor states that the patient has a muscle spasm in the bronchial tree and he is going to relieve this spasm with medication. You can expect him to use a drug from the _______________________ group.

/ / / / / / / / / / / / / / /

bronchodilator

/ / / / / / / / / / / / / / /

64. A drug that loosens secretions is a detergent. If a detergent is used in the respiratory tract (bronchial tree) it would be a ________________detergent.

/ / / / / / / / / / / / / / /

Broncho (Bronchodetergent is one word)

/ / / / / / / / / / / / / / /

65. The doctor orders a patient to inhale a medication that will loosen secretions in his bronchial tree. This medication belongs to the _________________________ group.

/ / / / / / / / / / / / / / /

bronchodetergent

/ / / / / / / / / / / / / / /

66. Quiz

Fill in the blanks to the left of the statement with the term most accurately defined.

a. ______________________ a combination form for the term Bronchial tree.

b. ______________________ a drug used to relax muscle spasms of the bronchial tree.

c. ______________________ a medicine which loosens and encourages removal of the secretions of the respirator tree.

d. ______________________ a drug that loosens secretions of the respiratory tract.

/ / / / / / / / / / / / / /

a. Broncho
b. Bronchodilator
c. Expectorant
d. Bronchodetergent

/ / / / / / / / / / / / / /

67. Blood travels through arteries, veins, and capillaries. Whenever we refer to these structures collectively we call them the vascular system.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

68. A word that deals with vascular system will usually have the combination form of vascular which is VASO. If a word contains the syllable VASO it is concerned with the ______________________ system.

/ / / / / / / / / / / / / /

vascular

/ / / / / / / / / / / / / /

69. Using the combination form of vascular and the ending dilator make a word that means a drug that causes blood vessels to dilate. ______________________

/ / / / / / / / / / / / / /

vasodilator

/ / / / / / / / / / / / / /

70. Constrict means to make the opening smaller. A drug that would cause an opening to become smaller is a constrictor.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

71. Using the combination form of vascular and the word constrictor make a word that means a drug that constricts the blood vessels. ____________________________

/ / / / / / / / / / / / / /

vasoconstrictor

/ / / / / / / / / / / / / /

72. A drug that causes blood to clot more rapidly is called a coagulant (ko ag u lant). If a doctor wanted a patient's blood to clot more rapidly than it now does, he would use a drug in the ______________________ group.

/ / / / / / / / / / / / / /

coagulant

/ / / / / / / / / / / / / /

73. Using the prefix for against or opposite of make a word that means a drug that delays clotting. __________________________________

/ / / / / / / / / / / / / /

anticoagulant

/ / / / / / / / / / / / / /

74. If a doctor wanted to cause a patient's blood to clot faster than it now does, he would use a ______________________. If he wanted to delay the clotting time of the patient's blood, he would use a ________________________.

/ / / / / / / / / / / / / /

coagulant - anticoagulant

/ / / / / / / / / / / / / /

75. Quiz

Fill in the blanks with the term that the statement most accurately describes.

a. ______________________________ a drug that causes blood vessels to dilate.

b. ______________________________ a drug that causes blood vessels to constrict.

c. ______________________________ a drug which causes blood to clot more rapidly.

d. ______________________________ a drug that retards clotting.

e. ______________________________ a combination form of the word vascular.

/ / / / / / / / / / / / / /

a. Vasodilator
b. Vasoconstrictor
c. Coagulant
d. Anticoagulant
e. VASO

/ / / / / / / / / / / / / /

76. A substance that encourages kidneys to secrete urine is known as a diuretic. Coffee and tea encourage the kidneys to secrete urine. Coffee and tea are ____________________.

/ / / / / / / / / / / / / /

diuretics

/ / / / / / / / / / / / / /

77. We have drugs that will encourage the kidneys to secrete urine. These drugs may be classified as _________________________.

/ / / / / / / / / / / / / /

diuretics

/ / / / / / / / / / / / / /

78. A diuretic encourages ____.

/ / / / / / / / / / / / / /

the kidneys to secrete urine

/ / / / / / / / / / / / / /

79. Any drug which temporarily increases functional activity is called a stimulant. If a drug temporarily increases the activity of the body it is a ________________________.

/ / / / / / / / / / / / / /

stimulant

/ / / / / / / / / / / / / /

80. Stimulants are classified by the part of the body they work on. A drug that increases cardiac activity temporarily is known as a ______________ ________________.

/ / / / / / / / / / / / / /

cardiac stimulant

/ / / / / / / / / / / / / /

81. Any drug that decreases activity of the body is a depressant. If a drug decreases the activity of a body part it is a ____________________ to that part.

/ / / / / / / / / / / / / /

depressant

/ / / / / / / / / / / / / /

82. Like stimulants, they are named for the part or symptom they depress. A drug that decreases cardiac activity is a _________________ depressant.

/ / / / / / / / / / / / / /

cardiac

/ / / / / / / / / / / / / /

83. A drug used to calm or quiet a patient without producing sleep is a sedative. A doctor who wanted to calm and quiet a patient would consider using a drug from the ____________________ group.

/ / / / / / / / / / / / / /

sedative

/ / / / / / / / / / / / / /

84. The sedative effect can be accomplished by means other than drugs. A bath that calms and quiets a patient has a _____________________ effect.

/ / / / / / / / / / / / / /

sedative

/ / / / / / / / / / / / / /

85. A sedative is used to ____

____.

/ / / / / / / / / / / / / /

calm and quiet a patient without producing sleep.
(or words meaning the same.)

/ / / / / / / / / / / / / /

86. A drug that is capable of dulling the senses and producing sleep is a hypnotic. If the physician wanted a patient to get some sleep he may order a drug from the ______________________ group.

/ / / / / / / / / / / / / /

hypnotic

/ / / / / / / / / / / / / /

87. When a doctor orders a sedative for the patient and it produces sleep we would say this sedative had the idiosyncrasy of ________________________ action on the patient.

/ / / / / / / / / / / / / /

hypnotic

/ / / / / / / / / / / / / /

88. Quiz

Write the term in the blank to the left of the statement that the statement best describes.

a. ________________________________ A drug that encourages the kidneys to secrete urine.

b. ________________________________ A drug that temporarily increases functional activity of the body.

c. ________________________________ A drug which decreases activity of a part of the body.

d. ________________________________ A drug capable of calming and quieting a patient without inducing sleep.

e. ________________________________ A drug that dulls the senses and produces sleep.

/ / / / / / / / / / / / / /

a. Diuretic
b. Stimulant
c. Depressant
d. Sedative
e. Hypnotic

/ / / / / / / / / / / / / /

89. Narcotics are drugs stronger than sedatives and hypnotics which in moderate doses will relieve pain and produce sleep. If a doctor wants a patient to have relief from pain or wants the patient to sleep and wants to use a drug stronger than a sedative or hypnotic, he will order a drug from the ___________________________ group.

/ / / / / / / / / / / / / /

narcotic

/ / / / / / / / / / / / / /

90. Narcotics are given in small dosages. When large doses are received by the body it produces stupor, coma, and death. Strict care is given to administration of narcotics because larger dosages will produce ________________, ____________________, and __________________.

/ / / / / / / / / / / / / / /

stupor, coma, death

/ / / / / / / / / / / / / / /

91. Narcotics are drugs that are stronger than sedatives and hypnotics which in ______________________ doses will relieve pain and produce sleep. In ______________ doses narcotics will produce stupor, coma, and death.

/ / / / / / / / / / / / / / /

moderate - large

/ / / / / / / / / / / / / / /

92. A drug that causes insensitivity to pain or touch is an anesthetic. If a patient is to be rendered free of pain or touch he will recieve an ___________________________ agent.

/ / / / / / / / / / / / / / /

anesthetic

/ / / / / / / / / / / / / / /

93. Ether is an example of a drug that renders a patient unable to feel pain or perceive touch. Ether belongs to the _______________________ group.

/ / / / / / / / / / / / / / /

anesthetic

/ / / / / / / / / / / / / / /

94. One does not have to be rendered unconscious to be anesthetized. A person who has a finger injected with an anesthetic will be awake but his finger will be anesthetized.

/ / / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / / /

95. A drug which inhibits the growth of or kills microorganisms is an antibiotic. If a drug is administered to inhibit the growth of or kill microorganisms it is from the ___________________________ group.

/ / / / / / / / / / / / / / /

antibiotic

/ / / / / / / / / / / / / / /

96. Penicillin, tetracycline, and chlorotetracycline are drugs that inhibit the growth of or kill microorganisms. These drugs belong to the ____________________ group.

/ / / / / / / / / / / / / /

antibiotic

/ / / / / / / / / / / / / /

97. An antibiotic is a drug that ____

____.

/ / / / / / / / / / / / / /

inhibits the growth of or kills microorganisms

/ / / / / / / / / / / / / /

98. A substance produced by the body when tissue is damaged and in itself causes additional irritation is the description of a histamine. You would recognize a histamine as a substance produced by the body when ______________________________ and in itself will cause ____________________.

/ / / / / / / / / / / / / /

tissue is damaged - irritation

/ / / / / / / / / / / / / /

99. Write a description of a histamine. ______________________________

____.

/ / / / / / / / / / / / / /

a substance produced by the body when tissue is damaged
and in itself will produce irritation

/ / / / / / / / / / / / / /

100. If the doctor wanted to decrease the irritation effect of histamine, he would use a drug that works against histamine. Using the prefix for against and the word histamine, construct a term that means a drug used to decrease the irritating effect of histamine on the body. ____________________

/ / / / / / / / / / / / / /

antihistamine

/ / / / / / / / / / / / / /

101. An antihistamine is a drug that ______________________________________

____.

/ / / / / / / / / / / / / /

is capable of decreasing the irritating effect of histamine

/ / / / / / / / / / / / / /

102. A substance that is antagonistic to invading bacteria or other substance foreign to the body is an antibody. If a substance is antagonistic toward a particular bacteria or other substance that enters the body it is an ____________________.

/ / / / / / / / / / / / / /

antibody

/ / / / / / / / / / / / / /

103. An antibody is a substance in the body that is ______________________________

____.

/ / / / / / / / / / / / / /

antagonistic to invading bacteria or other
substances foreign to the body

/ / / / / / / / / / / / / /

104. Pyretic is the medical term concerning fever. If you were to see a word that contained Pyretic you would know that it had something to do with __________________.

/ / / / / / / / / / / / / /

fever

/ / / / / / / / / / / / / /

105. Using the prefix for against and the word Pyretic construct a word which means a drug that relieves or reduces fever. ______________________

/ / / / / / / / / / / / / /

antipyretic

/ / / / / / / / / / / / / /

106. Acetylsalicylic (a see tal sal la sil ic) acid is a drug that reduces fever. It is therefore classified as a __________________________.

/ / / / / / / / / / / / / /

antipyretic

/ / / / / / / / / / / / / /

107. Antipyretic is a drug used to ____.

/ / / / / / / / / / / / / /

relieve or reduce fever

/ / / / / / / / / / / / / /

108. Quiz

Fill in the blanks to the left of column A with the term in column B that is being defined or described.

Column A

a. ______________________ A drug used to relieve anxiety and tension and has the effect of calming or quieting.

b. ______________________ Hypersensitivity to substances or conditions.

c. ______________________ A state of the body's hypersensitivity to a foreign protein or drug, so that the injection of a second dose brings about an acute reaction.

d. ______________________ A drug used to decrease the frequency or fluid content of bowel movements.

e. ______________________ Redness of the skin.

f. ______________________ Hives

Column B

Tranquilizer
Antidiarrheal agent
Allergy
Anaphylaxis
Urticaria
Erythema

/ / / / / / / / / / / / / /

a. Tranquilizer
b. Allergy
c. Anaphylaxis
d. Antidiarrheal agent
e. Erythema
f. Urticaria

/ / / / / / / / / / / / / /

109. Quiz

Match the definitions in column A with the terms in column B. Put the letter to the left of the definition in the space to the left of the term.

Column A	Column B
a. A drug which inhibits growth of or kills microorganisms.	( ) Narcotic
b. A substance which causes insensibility to pain or touch.	( ) Antibiotic
c. A substance which is believed to be produced by damaged tissues and which itself causes additional irritation.	( ) Anesthetic
d. A drug that is capable of decreasing the irritating effect of histamine.	( ) Histamine
e. A drug that relieves or reduces fever.	( ) Antibody
f. A drug stronger than sedatives and hypnotics which in moderate doses will relieve pain and produce sleep. In larger doses may produce stupor, coma, and death.	( ) Antihistamine
g. A blood substance which is antagonistic to invading bacteria or other foreign substances to the body.	( ) Antipyretic

//////////////

a. Antibiotic
b. Anesthetic
c. Histamine
d. Antihistamine
e. Antipyretic
f. Narcotic
g. Antibody

//////////////

110. Tranquilizers are drugs used to relieve anxiety and tension. A doctor that wants an anxious or tense patient to become calm and quiet will most likely prescribe a _______________________.

//////////////

tranquilizer

//////////////

111. Tranquilizers work by calming and quieting the patient. If a patient were on tranquilizer therapy, you would expect to see a patient that was __________________ and ________________.

//////////////

calm - quiet

//////////////

112. Define tranquilizer and state how they work. ______________________________

____

____

/ / / / / / / / / / / / / /

Drugs used to relieve anxiety and tension.
They calm and quiet the patient.

/ / / / / / / / / / / / / /

113. Diarrhea is a condition of frequent bowel movement with the fecal material being more or less of a fluid consistency. If a patient complained of frequent bowel movement in the space of 4 hours and the nature of the fecal material was liquid you would describe this condition as ____________________.

/ / / / / / / / / / / / / /

diarrhea

/ / / / / / / / / / / / / /

114. If we state that the patient has a diarrheal condition and the doctor wants to give him a drug to stop this condition he would order an antidiarrheal agent. A drug that stops diarrhea is classified as an ___________________________ agent.

/ / / / / / / / / / / / / /

antidiarrheal

/ / / / / / / / / / / / / /

115. Antidiarrheal agents may attack the diarrhea by decreasing the activity of the bowels and thereby decreasing the frequency of bowel movements. One way the antidiarrheal agents work is to decrease the activity of the bowels which ______________

____.

/ / / / / / / / / / / / / /

decreases the frequency of bowel movements

/ / / / / / / / / / / / / /

116. Dehydration is a problem in patients that have diarrhea. Therefore antidiarrheal agents may act to decrease the fluid content of the feces. In order to conserve fluids in the body of a patient that has diarrhea a doctor may order an antidiarrheal agent that ______________________________________ of the feces.

/ / / / / / / / / / / / / /

decreases the fluid content

/ / / / / / / / / / / / / /

265

117. We define an antidiarrheal agent as a drug used to decrease the frequency or fluid content of bowel movements. To decrease the fluid content of feces or the amount of bowel movements we would expect to use an ______________________ agent.

/ / / / / / / / / / / / / /

antidiarrheal

/ / / / / / / / / / / / / /

118. Define antidiarrheal agent. ____

____

/ / / / / / / / / / / / / /

a drug used to decrease the frequency or fluid
content of bowel movements.

/ / / / / / / / / / / / / /

119. The prefix HYPER means excessive. If you used this prefix with the word sensitivity you would have a word that meant excessive sensitivity. The prefix meaning excessive is __________________.

/ / / / / / / / / / / / / /

hyper

/ / / / / / / / / / / / / /

120. Hypersensitivity to a substance or condition is a definition of allergy. If a patient has a hypersensitivity to a substance or condition he has an ________________.

/ / / / / / / / / / / / / /

allergy

/ / / / / / / / / / / / / /

121. Hayfever is the result of a hypersensitivity to pollen. Hayfever is an ______________________.

/ / / / / / / / / / / / / /

allergy

/ / / / / / / / / / / / / /

122. A person may develop asthmatic symptoms when he is in areas that are lower than sea level. This is an example of a hypersensitivity to the atmospheric conditions below sea level. This is an ______________________.

/ / / / / / / / / / / / / /

allergy

/ / / / / / / / / / / / / /

123. Anaphylaxis (ana fil ax is) is the state of the body's hypersensitivity to a foreign protein or drug, so that the injection of a second dose brings about an acute reaction. The state of the body's hypersensitivity to a foreign protein or drug so that the second dose brings about an acute reaction is ____________________.

/ / / / / / / / / / / / / /

anaphylaxis

/ / / / / / / / / / / / / /

124. A patient is given an injection of penicillin with no allergic effects. On the next day he is given a second dose of the same type of penicillin. Twenty minutes after he receives the second dosage he develops an allergic reaction. This condition which was produced by the first dosage was ____________________.

/ / / / / / / / / / / / / /

anaphylaxis

/ / / / / / / / / / / / / /

125. The reaction that you observe after the second dose is the result of the state of anaphylaxis in the body. It is therefore called an anaphylactic reaction. The reaction to the second dose of the drug is called an ____________________________.

/ / / / / / / / / / / / / /

anaphylactic reaction

/ / / / / / / / / / / / / /

126. Anaphylaxis is usually used when the allergic symptoms are severe enough to cause shock.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

127. One of the signs of allergic conditions is hives. The medical term for hives is urticaria. Urticaria is the medical term for ____________.

/ / / / / / / / / / / / / /

hives

/ / / / / / / / / / / / / /

128. A patient reports to you that he has a lot of welt like eruptions on his body that look like hives. When reporting this to the nurse you would describe the allergic sign known medically as ____________________.

/ / / / / / / / / / / / / /

urticaria

/ / / / / / / / / / / / / /

129. A redness of the skin is the definition of the medical term Erythema. Erythema is ______________________________.

/ / / / / / / / / / / / / / /

redness of the skin

/ / / / / / / / / / / / / / /

130. The medical term for redness of the skin is ______________ _____.

/ / / / / / / / / / / / / / /

Erythema

/ / / / / / / / / / / / / / /

131. When blood clots, this is identified by the medical term thrombus. If a patient has a blood clot he has a __________________.

/ / / / / / / / / / / / / / /

thrombus

/ / / / / / / / / / / / / / /

132. The definition of thrombus is ______________ ______________.

/ / / / / / / / / / / / / / /

blood clot

/ / / / / / / / / / / / / / /

133. Whenever we use the word thrombus in a compound word we spell it thrombo. In the word thrombophlebitis the part of the word that means blood clot is _____________.

/ / / / / / / / / / / / / / /

thrombo

/ / / / / / / / / / / / / / /

134. Phlebe in a word means veins. In the word thrombophlebitis the part of the word that means vein is __________________.

/ / / / / / / / / / / / / / /

phleb(e)

/ / / / / / / / / / / / / / /

135. ITIS at the end of a term means inflammation of. In the word thrombophlebitis, the part of the word that means inflammation of is

/ / / / / / / / / / / / / / /

itis

/ / / / / / / / / / / / / / /

268

136. The term thrombophlebitis is defined as an inflammation of a vein associated with the formation of a clot. The term that means an inflammation of a vein associated with the formation of a clot is ______________________________.

/ / / / / / / / / / / / / /

thrombophlebitis

/ / / / / / / / / / / / / /

137. The term infiltration is defined as a fluid or solid foreign substance deposited into tissue. The definition of infiltration is ______________________________

____.

/ / / / / / / / / / / / / /

a fluid or solid foreign substance deposited into tissue

/ / / / / / / / / / / / / /

138. When infiltration is used in connection with intravenous therapy (medication and fluids administered through the vein) it takes on a more refined meaning.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

139. Infiltration in connection with intravenous therapy refers to the undesirable condition of fluid collection and swelling around the intravenous site when the needle has become dislodged from the vein. The nurse states that the needle of a patient's intravenous treatment has become dislodged from the vein and there is fluid leaking into the surrounding tissue causing swelling at the intravenous site. This condition is called ________________________.

/ / / / / / / / / / / / / /

infiltration

/ / / / / / / / / / / / / /

140. In intravenous therapy infiltration is the undesirable condition of __________

____

____.

/ / / / / / / / / / / / / /

fluid collection and swelling around the intravenous site
when the needle has become dislodged from the vein

/ / / / / / / / / / / / / /

300

141. The prefix sub in a term means under. If you read a term starting with sub you would know that it means ________________ something.

/ / / / / / / / / / / / / /

under

/ / / / / / / / / / / / / /

142. The term lingual means tongue. If you read a medical term that contained the work lingual you would know that that term referred to the ________________________.

/ / / / / / / / / / / / / /

tongue

/ / / / / / / / / / / / / /

143. With the prefix for under and the word for tongue construct a term that means under the tongue.

/ / / / / / / / / / / / / /

sublingual

/ / / / / / / / / / / / / /

144. A medication that must be dissolved under the tongue is a ________________________ medication.

/ / / / / / / / / / / / / /

sublingual

/ / / / / / / / / / / / / /

145. The term parenteral refers to a medication given systemically (into tissue to be absorbed and used elsewhere in the body) outside the gastrointestinal tract (stomach and intestine). So if a medication is given systemically outside the gastrointestinal tract it is a ________________________ medication.

/ / / / / / / / / / / / / /

parenteral

/ / / / / / / / / / / / / /

146. An injection of antibiotic into a patient's hip for the purpose of curing an infection in his throat is an example of a ________________________ medication.

/ / / / / / / / / / / / / /

parenteral

/ / / / / / / / / / / / / /

147. When we take measures to give a person the ability to resist or overcome a specific disease we are taking measures of immunization. When we give a person the ability to resist or overcome influenza we have accomplished ______________________ of that person for influenza.

/ / / / / / / / / / / / / / /

immunization

/ / / / / / / / / / / / / / /

148. Immunization is measures we take to ____
____.

/ / / / / / / / / / / / / / /

give a person the ability to resist or overcome a specific disease

/ / / / / / / / / / / / / / /

149. Quiz

Fill in the blanks to the left of the statements in column A with the terms in column B that are best described by each term.

Column A

a. ____________________ The undesirable condition of fluid collection and swelling around the intravenous site when the needle has become dislodged from the vein.

b. ____________________ Inflammation of a vein associated with the formation of a thrombus.

c. ____________________ Medication given systemically but outside the gastrointestinal tract.

d. ____________________ Under the tongue, also a classification of medications that dissolve under the tongue.

e. ____________________ Measures taken to give a person the ability to resist or overcome a specific disease.

Column B

Immunization
Infiltration
Sublingual
Parenteral
Thrombophlebitis

/ / / / / / / / / / / / / / /

a. Infiltration
b. Thrombophlebitis
c. Parenteral
d. Sublingual
e. Immunization

/ / / / / / / / / / / / / / /

Turn page and take the test

150. Test for Program on Medications

Fill in the blanks to the left of the statements with the term that is described. Confirm your responses when you have completed the entire test.

a. ______________________ The study of drugs and their actions on the body.

b. ______________________ Act of becoming accustomed to something from frequent use. Involves mainly an emotional need.

c. ______________________ A medication which delays the clotting of blood.

d. ______________________ A substance capable of calming and quieting without necessarily inducing sleep.

e. ______________________ A drug which inhibits growth of or kills microorganisms.

f. ______________________ One drug strengthening the action of another drug.

g. ______________________ A substance which produces vomiting.

h. ______________________ A substance used to loosen secretions of the respiratory tree.

i. ______________________ A substance that dilates blood vessels.

j. ______________________ Reddened skin.

k. ______________________ Inflammation of a vein associated with a thrombus.

l. ______________________ Hives

m. ______________________ A substance that relieves or reduces fever.

n. ______________________ Measures taken to give a person the ability to resist or overcome a specific disease.

o. ______________________ A drug which is capable of decreasing the irritating effect of histamine.

p. ______________________ A substance that causes insensibility to pain or touch.

q. ______________________ A drug which encourages kidneys to secrete urine.

r. ______________________ A state of the body's hypersensitivity to a foreign protein or drug, so that the injection of a second dose brings about an acute reaction.

s. ______________________ Development of a physical as well as an emotional need for a drug.

t. ______________________ The study of poisons. It deals with recognition of the signs and symptoms, the identification and treatment of poisonings.

Turn the page for confirmation

Confirmation to Test on Medications

a. Pharmacology

b. Habituation

c. Anticoagulant

d. Sedative

e. Antibiotic

f. Synergistic

g. Emetic

h. Bronchodetergent

i. Vasodilator

j. Erythema

k. Thrombophlebitis

l. Urticaria

m. Antipyretic

n. Immunization

o. Antihistamine

p. Anesthetic

q. Diuretic

r. Anaphylaxis

s. Addiction

t. Toxicology

MENTAL HEALTH

1. Mental illness is any disorder of the mind which adversely affects a person's thinking, acting, feeling, or physical well-being.

/ / / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / / /

2. Mental illness is any ______________________ of the ________________.

/ / / / / / / / / / / / / / /

disorder - mind

/ / / / / / / / / / / / / / /

3. Mental illness affects a person's ________________, ____________________, ____________________, or ____________________ well-being.

/ / / / / / / / / / / / / / /

thinking - acting - feeling - physical

/ / / / / / / / / / / / / / /

4. Mental illness is any ____ ____ ____.

/ / / / / / / / / / / / / / /

disorder of the mind which adversely affects a person's
thinking, acting, feeling, or physical well-being.

/ / / / / / / / / / / / / / /

5. Insanity is a legal term to indicate an individual is not able to make correct decisions for himself. The term used to indicate an individual isn't able to make correct decisions for himself is ____________________.

/ / / / / / / / / / / / / / /

insanity

/ / / / / / / / / / / / / / /

6. The term ________________ is a ______________ rather than a medical one.

/ / / / / / / / / / / / / / /

insanity - legal

/ / / / / / / / / / / / / / /

7. A person who is judged insane by a court is not held legally responsible for his actions. The correct term for this situation is ____________________.

/ / / / / / / / / / / / / /

insanity

/ / / / / / / / / / / / / /

8. The term insanity means that the patient is not able to ______________________ ____.

/ / / / / / / / / / / / / /

make correct decisions for himself

/ / / / / / / / / / / / / /

9. Hallucination is seeing, feeling, or hearing something that is not there. Seeing, feeling or hearing something that is not there is called ________________________.

/ / / / / / / / / / / / / /

hallucination

/ / / / / / / / / / / / / /

10. Hallucination is ________________, ______________, or ______________ something that is not there.

/ / / / / / / / / / / / / /

seeing - feeling - hearing

/ / / / / / / / / / / / / /

11. Psychologic causes, drugs, alcohol, organic illness, such as brain tumors, senility, or exhaustion may cause ______________________.

/ / / / / / / / / / / / / /

hallucinations

/ / / / / / / / / / / / / /

12. Hallucination is ____ ____.

/ / / / / / / / / / / / / /

seeing, feeling, or hearing something that is not there

/ / / / / / / / / / / / / /

13. Illusion is seeing, feeling, or hearing something that is there, but misinterpreting what is seen, felt, or heard.

/ / / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / / /

14. Seeing, feeling, or hearing something that is there, but misinterpreting what is seen, felt, or heard is called an ________________________.

/ / / / / / / / / / / / / / /

illusion

/ / / / / / / / / / / / / / /

15. Vague stimuli may cause an ________________________.

/ / / / / / / / / / / / / / /

illusion

/ / / / / / / / / / / / / / /

16. An illusion is __________________, __________________, or __________________ something that *is* there but is misinterpreted.

/ / / / / / / / / / / / / / /

seeing - feeling - hearing

/ / / / / / / / / / / / / / /

17. Misinterpreting what is seen, felt, or heard is called an ______________________.

/ / / / / / / / / / / / / / /

illusion

/ / / / / / / / / / / / / / /

18. Delusion is a fixed false belief. A fixed false belief is a ____________________.

/ / / / / / / / / / / / / / /

delusion

/ / / / / / / / / / / / / / /

19. If a patient is suffering from illusions, and this illusion becomes fixed, this fixed false belief is called a ________________________.

/ / / / / / / / / / / / / / /

delusion

/ / / / / / / / / / / / / / /

20. A delusion is a ______________________.

/ / / / / / / / / / / / / /

fixed false belief

/ / / / / / / / / / / / / /

21. Psychosis is a complete break with reality, characterized by hallucinations, illusions, and delusions.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

22. Psychosis is a ____________ ____________ with reality.

/ / / / / / / / / / / / / /

complete break

/ / / / / / / / / / / / / /

23. Signs of psychosis are characterized by ____________, ____________, and ____________.

/ / / / / / / / / / / / / /

hallucinations - illusions - delusions

/ / / / / / / / / / / / / /

24. Psychosis is a ____

____

____.

/ / / / / / / / / / / / / /

complete break with reality, characterized by hallucinations, illusions, and delusions

/ / / / / / / / / / / / / /

25. Anxiety is a persistant feeling of tension. A persistant feeling of tension is called ____________.

/ / / / / / / / / / / / / /

anxiety

/ / / / / / / / / / / / / /

26. Trouble sleeping, recurrent headaches or the development of compulsive habits are signs of ____________________.

/ / / / / / / / / / / / / / /

anxiety

/ / / / / / / / / / / / / / /

27. Anxiety may arise from psychologic or real situations. Psychologic or real situations may cause ____________________________.

/ / / / / / / / / / / / / / /

anxiety

/ / / / / / / / / / / / / / /

28. Anxiety is a persistant ________________________ of ____________________.

/ / / / / / / / / / / / / / /

feeling - tension

/ / / / / / / / / / / / / / /

29. Neurosis is a less severe form of mental illness characterized by anxiety. A less severe form of mental illness is ________________________.

/ / / / / / / / / / / / / / /

neurosis

/ / / / / / / / / / / / / / /

30. Anxiety is a sign of ____________________________________.

/ / / / / / / / / / / / / / /

neurosis

/ / / / / / / / / / / / / / /

31. Mental conflicts rooted in a persons childhood may cause ________________________.

/ / / / / / / / / / / / / / /

neurosis

/ / / / / / / / / / / / / / /

32. Neurosis is a ____ characterized by ________________________.

/ / / / / / / / / / / / / / /

less severe form of mental illness - anxiety

/ / / / / / / / / / / / / / /

33. Insight is self understanding. Self understanding is called ________________.

/ / / / / / / / / / / / / /

insight

/ / / / / / / / / / / / / /

34. Recognition of the abnormality of ones own emotional reactions or motives is called ____________________.

/ / / / / / / / / / / / / /

insight

/ / / / / / / / / / / / / /

35. Insight is ______________________________________.

/ / / / / / / / / / / / / /

self understanding

/ / / / / / / / / / / / / /

36. Rapport is a comfortable understanding relationship between two or more people. An understanding relationship between two or more people is called ________________.

/ / / / / / / / / / / / / /

rapport

/ / / / / / / / / / / / / /

37. An understanding between patient and physician is called ________________.

/ / / / / / / / / / / / / /

rapport

/ / / / / / / / / / / / / /

38. Rapport is a ____
____.

/ / / / / / / / / / / / / /

comfortable understanding relationship between two or more people

/ / / / / / / / / / / / / /

39. Orientation occurs when a person is aware of three things. He must realize person, place, and time. It is imperative that he know who he is, where he is, and when it is.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

271

40. A patient is considered orientated when he realizes ______________, ____________, and ______________.

//////////////

person - place - time

//////////////

41. A patient, to be considered orientated, must know ________________________, ________________________, and ________________________.

//////////////

who he is - where he is - when it is

//////////////

42. A patient must realize person, place and time (know who he is, where he is, and when it is) to be considered ________________________.

//////////////

orientated

//////////////

43. Depression is a persistant feeling of sadness. A persistant feeling of sadness is called ____________________.

//////////////

depression

//////////////

44. If your patient demonstrates a morbid sadness or melancholy, he may be suffering from ________________________.

//////////////

depression

//////////////

45. Depression is a ____.

//////////////

persistant feeling of sadness

//////////////

46. Excitement is a state of physical or mental over activity. A state of physical or mental over activity is called ______________________.

//////////////

excitement

//////////////

47. Excitement is a state of ________________ or ______________ over activity.

//////////////

physical - mental

//////////////

48. Excitement is ____.

//////////////

state of physical or mental overactivity

//////////////

49. Personality is the sum total of what makes and characterizes you as an individual.

//////////////

no response

//////////////

50. Behavior, attitudes and character traits of an individual determine his ______________________.

//////////////

personality

//////////////

51. Personality is the ____ ____.

//////////////

sum total of what makes and characterizes you as an individual

//////////////

52. Heredity is the traits and characteristics received from ancestors. Traits and characteristics received from ancestors is called ____________________.

//////////////

heredity

//////////////

53. Color of hair or eyes, sex determination, and certain diseases are determined by ______________________.

/ / / / / / / / / / / / / /

heredity

/ / / / / / / / / / / / / /

54. Heredity is the ______________ and __________________ received from ancestors.

/ / / / / / / / / / / / / /

traits - characteristics

/ / / / / / / / / / / / / /

55. Environment is composed of the conditions, surroundings or influences which affect the body. Conditions, surroundings, or influences which affect the body are called ________________________.

/ / / / / / / / / / / / / /

environment

/ / / / / / / / / / / / / /

56. Poor schooling, poor nutrition, not enough sunlight, too much heat, inadequate housing are factors which affect the body. These factors are examples of _______________________.

/ / / / / / / / / / / / / /

environment

/ / / / / / / / / / / / / /

57. Environment is composed of the ____________________, _________________, or __________________ which affect the body.

/ / / / / / / / / / / / / /

conditions - surroundings - influences

/ / / / / / / / / / / / / /

58. Conversion is changing psychological problems into physical symptoms. Changing psychological problems into physical symptoms is called ______________________.

/ / / / / / / / / / / / / /

conversion

/ / / / / / / / / / / / / /

59. A patient is using the symptoms of deafness and paralysis of a limb to obtain relief from a distressing conflict in the mind. The term for this reaction is ________________.

/ / / / / / / / / / / / / /

conversion

/ / / / / / / / / / / / / /

60. Conversion is ____

____.

/ / / / / / / / / / / / / /

changing psychological problems into physical symptoms

/ / / / / / / / / / / / / /

61. Quiz

Match the terms in column "A" with the definitions in column "B". Put the letter to the left of the definition by the correct number to the left of the term.

Column A

(1) ______ mental illness

(2) ______ illusion

(3) ______ delusion

(4) ______ hallucination

(5) ______ psychosis

(6) ______ personality

Column B

a. a complete break with reality.

b. a fixed false belief.

c. the sum total of what makes and characterizes you as an individual.

d. any disorder of the mind which adversely affects a person's thinking, acting, feeling or physical well-being.

e. seeing, feeling or hearing something that is not there.

f. seeing, feeling or hearing something that is there but misinterpreting what is seen, felt, or heard.

/ / / / / / / / / / / / / /

(1) __d__ (2) __f__ (3) __b__ (4) __e__ (5) __a__ (6) __c__

/ / / / / / / / / / / / / /

62. Withdrawal is a retreat from the world of reality. Retreat from the world of reality is called __________________________.

/ / / / / / / / / / / / / /

withdrawal

/ / / / / / / / / / / / / /

63. If a patient displays the traits of quietness, seclusiveness, unsociability, eccentricity, avoiding competition or day dreaming, these may be signs of retreating from the world of reality which is called ______________________________.

/ / / / / / / / / / / / / / /

withdrawal

/ / / / / / / / / / / / / / /

64. Withdrawal is a ____.

/ / / / / / / / / / / / / / /

retreat from the world of reality

/ / / / / / / / / / / / / / /

65. Suspicion is mistrust without cause. Mistrust without cause is called ______________________.

/ / / / / / / / / / / / / / /

suspicion

/ / / / / / / / / / / / / / /

66. A patient overhears whispering that he does not understand and immediately feels you are talking about him. This is an example of ___________________________.

/ / / / / / / / / / / / / / /

suspicion

/ / / / / / / / / / / / / / /

67. Suspicion is ____.

/ / / / / / / / / / / / / / /

mistrust without cause

/ / / / / / / / / / / / / / /

68. Projection is blaming others for things we do or feelings we have. Blaming others for things we do or feel is called ______________________________.

/ / / / / / / / / / / / / / /

projection

/ / / / / / / / / / / / / / /

69. If you failed a test, and blamed the teacher for not teaching the material or blame other people for making noise that prevented you from thinking, you were displaying a form of ____________________.

//////////////

projection

//////////////

70. Projection is ____

____.

//////////////

blaming others for things we do or feelings we have

//////////////

71. Fantasy is using the imagination to escape from an unpleasant situation. Using imagination to escape from unpleasant situations is called ____________________.

//////////////

fantasy

//////////////

72. An elderly man, who is bed ridden, dreams about captaining a sailing vessel on the open sea. He imagines himself racing across the deck securing sails and tying down gear. This is an example of ______________________.

//////////////

fantasy

//////////////

73. Fantasy is ____

____.

//////////////

using the imagination to escape from an unpleasant situation

//////////////

74. Regression is escaping back to an earlier or more childish form of behavior.

//////////////

no response

//////////////

75. Regression is ____________________ back to an ____________________ or more ____________________ form of ____________________.

245

/ / / / / / / / / / / / / /

escaping - earlier - childish - behavior

/ / / / / / / / / / / / / /

76. An adult, unable to solve the problems of finances that face him, may resort to childish or adolescent tactics, such as a temper tantrum, in an effort to get what he wants. This is an example of ____________________.

/ / / / / / / / / / / / / /

regression

/ / / / / / / / / / / / / /

77. Regression is ____
____.

/ / / / / / / / / / / / / /

escaping back to an earlier or more childish form of behavior

/ / / / / / / / / / / / / /

78. Sublimation is diverting unacceptable desires into acceptable channels. Diverting unacceptable desires into acceptable channels is ____________________.

/ / / / / / / / / / / / / /

sublimation

/ / / / / / / / / / / / / /

79. A youth is constantly being picked up by the police for fighting in the streets of his neighborhood. A social worker gets the boy interested in boxing at the local boys club. This is an example of the use of ____________________.

/ / / / / / / / / / / / / /

sublimation

/ / / / / / / / / / / / / /

80. Sublimation is ____
____.

/ / / / / / / / / / / / / /

diverting unacceptable desires into acceptable channels

/ / / / / / / / / / / / / /

81. Compensation is attempting to make up for real or imagined handicap. Attempting to make up for real or imagined handicaps is ______________________________.

/ / / / / / / / / / / / / /

compensation

/ / / / / / / / / / / / / /

82. A deformed boy may not be able to participate in athletics, but may make up for this deficiency by excelling in mathematics. This is an example of ____________________.

/ / / / / / / / / / / / / /

compensation

/ / / / / / / / / / / / / /

83. Compensation is ____
____.

/ / / / / / / / / / / / / /

attempting to make up for real or imagined handicaps

/ / / / / / / / / / / / / /

84. Displacement is the transfer of emotions from one person or thing to another person or thing.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

85. Displacement is the ______________________ of ____________________ from one
_____________________ or ______________________ to another person or thing.

/ / / / / / / / / / / / / /

transfer - emotions - person - thing

/ / / / / / / / / / / / / /

86. A person has a particularly severe difference of opinion with his supervisor but cannot express this difference. When he goes home that night he disagrees and argues with his wife about everything she does. This is an example of ________________________.

/ / / / / / / / / / / / / /

displacement

/ / / / / / / / / / / / / /

87. Displacement is the ____
____.

/ / / / / / / / / / / / / /

transfer of emotions from one person or thing to another person or thing

/ / / / / / / / / / / / / /

88. Identification is imitating the behavior or mannerisms of others. Imitating the behavior or mannerisms of others is called ______________________.

/ / / / / / / / / / / / / /

identification

/ / / / / / / / / / / / / /

89. Your child may imitate your walk, facial expressions and hand gestures in an effort to be like you. Because of his admiration for you, he is exhibiting a form of ______________________.

/ / / / / / / / / / / / / /

identification

/ / / / / / / / / / / / / /

90. Identification is ____
____.

/ / / / / / / / / / / / / /

imitating the behavior or mannerisms of others

/ / / / / / / / / / / / / /

91. Repression is pushing painful or unpleasant thoughts into the subconcious rather than facing them.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

92. Pushing painful or unpleasant thoughts into the subconsious rather than facing them is ______________________.

/ / / / / / / / / / / / / /

repression

/ / / / / / / / / / / / / /

93. A woman witnessed her child being struck and killed by an automobile. When questioned by police at the scene of the accident and on several separate occasions in the following weeks, she was unable to remember anything about the accident. This woman was displaying ________________________.

/ / / / / / / / / / / / / /

repression

/ / / / / / / / / / / / / /

94. Repression is ____

____.

/ / / / / / / / / / / / / /

pushing painful or unpleasant thoughts into the
subconcious rather than facing them

/ / / / / / / / / / / / / /

95. Rationalization is making excuses in order to avoid feelings of guilt. Making excuses in order to avoid feelings of guilt is called ______________________________.

/ / / / / / / / / / / / / /

rationalization

/ / / / / / / / / / / / / /

96. The student who fails admission to Columbia Medical School may take the position that he did not want to be a doctor anyway, because the work is too demanding. This is called ________________________.

/ / / / / / / / / / / / / /

rationalization

/ / / / / / / / / / / / / /

97. Rationalization is ____

____.

/ / / / / / / / / / / / / /

making excuses in order to avoid feelings of guilt

/ / / / / / / / / / / / / /

98. Ego Defense Mechanisms are methods the mind uses to protect itself against stress or conflict.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

99. Projection, fantasy, regression, identification are used by the mind to protect itself against stress. These mechanisms are called __________ __________________ ________________________.

/ / / / / / / / / / / / / /

Ego - Defense - Mechanism

/ / / / / / / / / / / / / /

100. Rationalization, compensation, agression and repression are ________ ______________ ____________________.

/ / / / / / / / / / / / / /

Ego - Defense - Mechanism

/ / / / / / / / / / / / / /

101. Ego Defense Mechanisms are ________________________________ ____________ ____.

/ / / / / / / / / / / / / /

methods the mind uses to protect itself against stress or conflict

/ / / / / / / / / / / / / /

102. Quiz

Match the terms in column "A" with the definitions in column "B". Place the letter to the left of the definition in the space to the left of the term.

Column A

(1) _____ suspicion

(2) _____ projection

(3) _____ fantasy

(4) _____ regression

(5) _____ compensation

(6) _____ identification

(7) _____ repression

(8) _____ rationalization

Column B

a. attempting to make up for real or imagined handicaps.

b. making excuses in order to avoid feelings of guilt.

c. mistrust without cause.

d. blaming others for things we do or feelings we have.

e. escaping back to an earlier or more childish form of behavior.

f. pushing painful or unpleasant thoughts into the subconcious rather than facing them.

g. using the imagination to escape from an unpleasant situation.

h. imitating the behavior or mannerism of others.

/ / / / / / / / / / / / / / /

(1) __c__, (2) __d__, (3) __g__, (4) __e__, (5) __a__, (6) __h__, (7) __f__, (8) __b__

/ / / / / / / / / / / / / / /

CARDIOVASCULAR DISORDERS

1. Fibrillation is the irregular contractions of the individual muscle fibers of the heart. Irregular contractions of the individual muscle fibers of the heart is

______________________.

/ / / / / / / / / / / / / / /

fibrillation

/ / / / / / / / / / / / / / /

2. These irregular contractions of the heart muscles produce irregular heart beats and pulse rates. Fibrillation produces ______________________ ______________________ beats and ______________________ ______________________.

/ / / / / / / / / / / / / / /

irregular heart - pulse rate

/ / / / / / / / / / / / / / /

3. Fibrillation is the irregular contractions of the individual muscle fibers of the heart producing irregular heart beats and pulse rates.

/ / / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / / /

4. Define fibrillation and what it produces.

____

____

____.

/ / / / / / / / / / / / / / /

Fibrillation is the irregular contractions of the individual muscle fibers of the heart producing irregular heart beats and pulse rates

/ / / / / / / / / / / / / / /

291

5. The term cardia at the end of a medical term means that term is concerned with the heart. When a medical term ends with cardia the term concerns the _______________.

/ / / / / / / / / / / / / / /

heart

/ / / / / / / / / / / / / / /

6. The term cardia means _______________.

/ / / / / / / / / / / / / / /

heart

/ / / / / / / / / / / / / / /

7. The term brady (bray-de) means abnormally slow. If you wanted to indicate an abnormal slowness, you use the term _______________.

/ / / / / / / / / / / / / / /

brady

/ / / / / / / / / / / / / / /

8. Using the term for abnormally slow and the term for heart, construct a medical term that means abnormal slowness of the heart _______________.

/ / / / / / / / / / / / / / /

bradycardia

/ / / / / / / / / / / / / / /

9. Bradycardia is usually considered to be less than 60 beats per minute or less. If the heart beats 60 time per minute or less, it is considered to be in a state of _______________.

/ / / / / / / / / / / / / / /

bradycardia

/ / / / / / / / / / / / / / /

10. Tachy is the term to denote excessively rapid state. Of an excessively rapid state exists, this is indicated by the term _______________.

/ / / / / / / / / / / / / / /

tachy

/ / / / / / / / / / / / / / /

11. Using the term for excessively rapid and the term for heart. Construct a medical term that means excessively rapid heart beat.

/ / / / / / / / / / / / / / /

tachycardia

/ / / / / / / / / / / / / / /

12. Tachycardia is ____.

/ / / / / / / / / / / / / / /

excessively rapid heart beat

/ / / / / / / / / / / / / / /

13. Tachycardia is considered to be 100 beats per minute or more. Tachycardia is considered to be ____________ beats per minute or ______________.

/ / / / / / / / / / / / / / /

100 - more

/ / / / / / / / / / / / / / /

14. What is tachycardia and at what point does it begin.

____

/ / / / / / / / / / / / / / /

excessively rapid heart beat of 100 beats per minute or more

/ / / / / / / / / / / / / / /

15. Hypertension is the medical term for high blood pressure. The doctor states that your patient has high blood pressure. What is the medical term for this condition?

____

/ / / / / / / / / / / / / / /

hypertension

/ / / / / / / / / / / / / / /

16. If hypertension is high blood pressure, the term hypotension denotes

_________ ______________ ______________.

/ / / / / / / / / / / / / / /

low blood pressure

/ / / / / / / / / / / / / / /

17. The medical term for low blood pressure is ______________________.

/ / / / / / / / / / / / / /

hypotension

/ / / / / / / / / / / / / /

18. The part of the medical term hypotension that denotes low is ______________.

/ / / / / / / / / / / / / /

hypo

/ / / / / / / / / / / / / /

19. Quiz

Fill in the blanks with the term that is most accurately described by the statement.

a. ______________________ Abnormal slowness of the heart beat, usually 60 beats or less per minute.

b. ______________________ Irregular contractions of individual muscle fibers of the heart producing irregular beats and pulse rates.

c. ______________________ Low blood pressure.

d. ______________________ High blood pressure.

e. ______________________ Excessive rapidity of the heart beat, usually 100 beats or more per minute or more.

/ / / / / / / / / / / / / /

a. Bradycardia
b. Fibrillation
c. Hypotension
d. High blood pressure
e. Tachycardia

20. Rheumatic (Ru-matic) fever is an inflammatory disease which affects small blood vessels and connective tissue. An inflammatory disease that affects small blood vessels and connective tissue is __________________ ______________.

/ / / / / / / / / / / / / /

Rheumatic fever

/ / / / / / / / / / / / / /

21. Rheumatic fever is usually preceded by a streptococcal infection and it's cause of most heart disorders in children and adults.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

22. What type infection usually precedes the disease of Rheumatic Fever?

____

/ / / / / / / / / / / / / /

Streptococcal

/ / / / / / / / / / / / / /

23. What is Rheumatic Fever? ____
____.

/ / / / / / / / / / / / / /

An inflammatory disease which affects small blood vessels
and connective tissue

/ / / / / / / / / / / / / /

24. Rheumatic Heart Disease is a disease in which the valves of the heart have been dameaged. A disease in which the valves of the heart have been damaged is _____________
_____________ _____________________.

/ / / / / / / / / / / / / /

Rheumatic Heart Disease

/ / / / / / / / / / / / / /

25. In Rheumatic Heart Disease stenosis (narrowing of the opening) of the valves occurs. In Rheumatic Heart Disease _______________ of the ____________________ occurs.

/ / / / / / / / / / / / / /

stenosis - valves

26. In Rheumatic Heart Disease regurgitation of blood has also developed. In Rheumatic Heart Disease stenosis of the valves and _________ _______________ _________
____________________ has developed.

/ / / / / / / / / / / / / /

regurgitation of blood

/ / / / / / / / / / / / / /

27. A disease in which the valves of the heart have been damaged, stenosis of the valves and regurgitation of blood has developed is ________________________________
______________________ _______________________.

/ / / / / / / / / / / / / /

Rheumatic Heart Disease

/ / / / / / / / / / / / / /

28. Define Rheumatic Heart Disease

____

____

____

///////////////

A disease in which the valves of the heart have been damaged. Stenosis of the valves and regurgitation of blood has developed.

///////////////

29. Ischimia (is-keem-e-a) is the local and temporary lack of blood supply to meet the needs of the tissue. The temporary lack of blood supply to meet the needs of the tissue is ________________.

///////////////

ischemia

///////////////

30. Ischemia is the ________________ and ____________________ lack of blood supply to meet the needs of the tissue.

///////////////

local - temporary

///////////////

31 What is Ischemia? ____

____.

///////////////

The local and temporary lack of blood supply to meet the needs of the tissue.

///////////////

32. A gental blowing sound heard when the valves of the heart are diseased or malformed is called a murmur. The gentle blowing sound heard when the valves of the heart are diseased or malformed is called a ________________.

///////////////

murmur

///////////////

33. This murmur is the sound of blood leaking past the valves. The murmur is the sound of ______________________________.

/ / / / / / / / / / / / / /

blood leaking past the valves

/ / / / / / / / / / / / / /

34. The full definition of murmur is a gentle blowing sound heard when the valves of the heart are diseased or malformed allowing blood to leak past them.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

35. What is a murmur? ____

____

____.

/ / / / / / / / / / / / / /

A gentle blowing sound heard when the valves of the heart are diseased or malformed allowing blood to leak past them.

/ / / / / / / / / / / / / /

36. Quiz

Fill in the blanks with the term that the statement best describes.

a. ________________________ A disease in which the valves of the heart have been damaged. Stenosis of the valves and regurgitation of blood has developed.

b. ________________________ Local and temporary lack of blood supply to meet the needs of the tissue.

c. ________________________ A gentle blowing sound heard when the valves of the heart are diseased or malformed and blood is allowed to leak past them.

d. ________________________ An inflammatory disease which affects small blood vessels and connective tissue.

/ / / / / / / / / / / / / /

a. Rheumatic Heart Disease
b. Ischemia
c. Murmur
d. Rheumatic Fever

/ / / / / / / / / / / / / /

EYES, EARS, NOSE, AND THROAT

1. There are three common prefixes that indicate the term concerns the eyes. They are ophth, ocular, and optic. The three prefixes that concerning the eyes are __________, ______________, and ______________.

/ / / / / / / / / / / / / /

ophth - ocular - optic

/ / / / / / / / / / / / / /

2. The prefixes ophth, ocular, and optic indicate the medical term is concerned with the __________________.

/ / / / / / / / / / / / / /

eyes

/ / / / / / / / / / / / / /

3. An ophthalmoscope is an instrument that is used to look into the _____________.

/ / / / / / / / / / / / / /

eyes

/ / / / / / / / / / / / / /

4. An ophthalmologist is a doctor that treats diseases of the ____________.

/ / / / / / / / / / / / / /

eye

/ / / / / / / / / / / / / /

5. A doctor that specializes in the treatment of diseases of the eye is an ________________________________.

/ / / / / / / / / / / / / /

ophthalmologist

/ / / / / / / / / / / / / /

6. An optometrist is one who is trained to measure or test vision. A person is tested for glasses by an ___________________________.

/ / / / / / / / / / / / / /

optometrist

/ / / / / / / / / / / / / /

7. An optometrist is one ____.

/ / / / / / / / / / / / / /

trained to measure or test vision

/ / / / / / / / / / / / / /

8. One who makes optical instruments such as glasses is an optician. An optician is one who __________ ____________ ______________ such as glasses.

/ / / / / / / / / / / / / /

makes optical instruments

/ / / / / / / / / / / / / /

9. Quiz

Fill in the blanks with the terms that are described by the statements to the right of the blank.

a. ______________________________ A doctor who treats diseases of the eyes.

b. ______________________________ One who makes optical instruments such as glasses.

c. ______________________________ One who is trained to measure or test vision.

d. ______________________________ Prefixes that indicate the eyes.

/ / / / / / / / / / / / / /

a. Ophthalmologist
b. Optician
c. Optometrist
d. Ophth, optic, and ocular

/ / / / / / / / / / / / / /

10. As an exercise fill in the blanks with the appropriate terms.

Amn James was having ocular difficulty and felt he needed his ______________ checked. He made an appointment with the ________________, who gave him a thorough examination and suspected some sort of eye disease. Amn James was then given an appointment to see Dr. Jones the ______________________ for further diagnosis and treatment. After several weeks of treatment Amn James was given a prescription for glasses to take to his ______________ to have them made up.

/ / / / / / / / / / / / / /

eyes, optometrist, ophthalmologist, optician

/ / / / / / / / / / / / / /

11. The prefix di means two or double. If a word began with di it would mean ________ or ________________ something.

12. Diplopia (dip-low-pe-a) is ____________________ vision.

/ / / / / / / / / / / / / / /

double

/ / / / / / / / / / / / / / /

13. Double vision is ______________________.

/ / / / / / / / / / / / / / /

diplopia

/ / / / / / / / / / / / / / /

14. Your patient complains of double vision (sees two of everything). You will report to the nurse that your patient is experiencing ______________________.

/ / / / / / / / / / / / / / /

diplopia

/ / / / / / / / / / / / / / /

15. The prefix photo means light. A medical term that begins with photo concerns ________________.

/ / / / / / / / / / / / / / /

light

/ / / / / / / / / / / / / / /

16. The prefix for light is ______________________.

/ / / / / / / / / / / / / / /

photo

/ / / / / / / / / / / / / / /

17. Phobia (foe-be-a) means abnormal intolerance. An abnormal intolerance to something is the definition of ________________.

/ / / / / / / / / / / / / / /

phobia

/ / / / / / / / / / / / / / /

18. The term for abnormal intolerance to light is __________________________.

/ / / / / / / / / / / / / / /

photophobia

/ / / / / / / / / / / / / / /

19. Ophthalmoscope is the instrument used to visually examine the eyes. An instrument used to visually examine the eyes is an ______________________________.

/ / / / / / / / / / / / / /

ophthalmoscope

/ / / / / / / / / / / / / /

20. Bleeding into the tissue is Ecchymosis (Ek-e-mose-is) Ecchymosis is ____.

/ / / / / / / / / / / / / /

bleeding into the tissue

/ / / / / / / / / / / / / /

21. A blackeye is an example of ______________________________.

/ / / / / / / / / / / / / /

Ecchymosis

/ / / / / / / / / / / / / /

22. Bleeding into the tissue is _____________________________.

/ / / / / / / / / / / / / /

Ecchymosis

/ / / / / / / / / / / / / /

23. Quiz

Fill in the blanks with the term best described by the statements to the right.

a. ____________________________ double vision

b. ____________________________ bleeding into the tissue

c. ____________________________ instrument used to visually examine the eyes

d. ____________________________ abnormal intolerance to light

e. ____________________________ prefix meaning light

f. ____________________________ abnormal fear of

/ / / / / / / / / / / / / /

a. diplopia
b. ecchymosis
c. ophthalmoscope
d. photophobia
e. photo
f. phobia

/ / / / / / / / / / / / / /

24. The prefix oto means pertaining to the ear. If you read a term that starts with the prefix oto, the term will pertain to the ____________________.

/ / / / / / / / / / / / / /

ear

/ / / / / / / / / / / / / /

25. The term ____________ means pertaining to the ear.

/ / / / / / / / / / / / / /

oto

/ / / / / / / / / / / / / /

26. An otoscope is an instrument used to visually examine the ear. The instrument used to visually examine the ear is an ________________________.

/ / / / / / / / / / / / / /

otoscope

/ / / / / / / / / / / / / /

27. The canal that leads from the outside of the ear to the eardrum is called the auditory canal. The canal that extends from the outer ear to the eardrum is the __________________ ______________.

/ / / / / / / / / / / / / /

auditory canal

/ / / / / / / / / / / / / /

28. Cerumen is a wax like secretion found in the auditory canal. The wax like secretion found in the auditory canal is ______________________.

/ / / / / / / / / / / / / /

cerumen

/ / / / / / / / / / / / / /

29. Translate the following statement into medical terminology: "Dr. Jones used an instrument to look into his patient's external ear canal where he saw a build up of ear wax."

"Dr. Jones used an ____________________ to visually examine his patient's ____________________ ____________ where he saw a build up of ____________________.

/ / / / / / / / / / / / / /

otoscope - auditory canal - cerumen

/ / / / / / / / / / / / / /

30. The prefix rhino pertains to the nose. When the prefix rhino is used the term will pertain to the ______________________.

/ / / / / / / / / / / / / /

nose

/ / / / / / / / / / / / / /

31. Rhinologist is one who specializes in the diseases of the ____________________.

/ / / / / / / / / / / / / /

nose

/ / / / / / / / / / / / / /

32. Rhinoplasty would be plastic surgery of the _________________.

/ / / / / / / / / / / / / /

nose

/ / / / / / / / / / / / / /

33. The prefix that pertains to the nose is ____________________.

/ / / / / / / / / / / / / /

rhino

/ / / / / / / / / / / / / /

34. Epistaxis is the medical term for nosebleed. If a patient comes with a nosebleed, you would indicate this condition with the medical term ______________________.

/ / / / / / / / / / / / / /

epistaxis

/ / / / / / / / / / / / / /

35. If a person is struck on the nose he may experience ____________________________ (nosebleed).

/ / / / / / / / / / / / / /

epitaxis

/ / / / / / / / / / / / / /

36. The prefix dys means labored or difficult. Dys means ____________________ or ________________________.

/ / / / / / / / / / / / / /

labored - difficult

/ / / / / / / / / / / / / /

37. The medical term phagia means swallowing. Using the prefix for difficult, construct a medical term that means difficult swallowing. ______________________

/ / / / / / / / / / / / / /

dysphagia

/ / / / / / / / / / / / / /

38. A patient that has enlarged tonsils and adenoids may experience ________________ (difficulty in swallowing).

/ / / / / / / / / / / / / /

dysphagia

/ / / / / / / / / / / / / /

39. Tonsils and adenoids are small masses of lymph tissues located on the walls of the pharynx. Small masses of lymph tissue found on the walls of the pharynx are ____________________ and ____________________.

/ / / / / / / / / / / / / /

tonsils - adenoids

/ / / / / / / / / / / / / /

40. Tonsils and adenoids are small masses of ________________ ______________ located on the ______________ of the ________________.

/ / / / / / / / / / / / / /

lymph tissues - walls - pharynx

/ / / / / / / / / / / / / /

41. A laryngoscope (larin-jo-scope) is an instrument used to visually examine the larynx An instrument used to visually examine the larynx is the ______________________.

/ / / / / / / / / / / / / /

larynogoscope

/ / / / / / / / / / / / / /

42. A doctor indicates that he is going to take Sgt Allen to surgery to visually examine his larynx. The instrument he will use is called a ____________________________.

/ / / / / / / / / / / / / /

laryngoscope

/ / / / / / / / / / / / / /

43. Quiz

Fill in the blanks with the terms that are best described by the statements to the right of each blank.

a. ______________________________ an instrument used to visually examine the ears.

b. ______________________________ small masses of lymph tissue located on the walls of the pharynx.

c. ______________________________ waxlike secretion found in the auditory canal.

d. ______________________________ pertain to the nose

e. ______________________________ pertaining to the ear

f. ______________________________ instrument used to visually examine the larynx.

g. ______________________________ nosebleed

h. ______________________________ difficulty in swallowing

//////////////

a. Otoscope
b. Tonsils and Adenoids
c. Cerumen
d. Rhino
e. oto
f. laryngoscope
g. Epistaxis
h. dysphagia

//////////////

44. Test

Fill in the blanks with the term that the statements to the right of each blank best describes.

a. ______________________________ Irregular contractions of individual muscle fibers of the heart beats and pulse rate.

b. ______________________________ Local or temporary lack of blood supply to meet the needs of the tissue.

c. ______________________________ A discolored spot on the skin that is not elevated above the surface.

d. ______________________________ A person trained to measure or test vision.

e. ______________________________ An abnormal intolerance to light.

f. ______________________________ An instrument used to visually examine the eyes.

g. ______________________________ A waxlike secretion found in the auditory canal.

h. ____________________ Difficulty in swallowing

i. ____________________ Pertaining to the nose

j. ____________________ An instrument used to visually examine the larynx.

k. ____________________ Abnormal slowness of the heart beat, usual 60 beats or less per minute.

l. ____________________ High blood pressure

m. ____________________ A small elevation of the skin containing serous fluid.

n. ____________________ The canal that leads from the outside of the ear to the eardrum.

o. ____________________ Bleeding into the tissue

p. ____________, Three prefixes that pertain to the eyes.

____________,

____

q. ____________________ The gentle blowing sound heard when the valves of the heart are diseased or malformed.

r. ____________________ Excessive rapidity of the heart beat, usually 100 or more beats per minute.

s. ____________________ Double vision

t. ____________________ An inflammatory disease which affects small blood vessels and connective tissue.

Confirmation on the next page

Confirmation

a. fibrillation

b. ischemia

c. macule

d. optometrist

e. photophobia

f. opthalmoscope

g. cerumen

h. dysphagia

i. rhino

j. larynogoscope

k. bradycardia

l. hypertension

m. vesicle

n. auditory canal

o. ecchymosis

p. ophth, optic, ocular

q. murmur

r. tachycardia

s. dyslopia

t. Rheumatic Fever

If you missed more than two terms review the section of the program that deals with those terms you missed.

If you did not miss more than two terms you are finished with this section of the program.

30P

DERMATOLOGY

1. There are lesions found on the skin in certain allergic, traumatic, or diseased conditions. You will be required to know the names of four basic lesions and their descriptions. This section of the program will define and describe these lesions.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

2. Excoriation is the loss of superficial layer of the skin. The loss of superficial layer of the skin is __________________________.

/ / / / / / / / / / / / / /

excoriation

/ / / / / / / / / / / / / /

3. When a person scrapes his skin with his fingernails the result is __________________.

/ / / / / / / / / / / / / /

excoriation

/ / / / / / / / / / / / / /

4. Excoriation is the ________________ of the ________________________layer of skin.

/ / / / / / / / / / / / / /

loss - superficial

/ / / / / / / / / / / / / /

5. A macule is a discolored spot on the skin that is not elevated above the surface. A discolored spot on the skin that is not elevated above the surface is a _____________.

/ / / / / / / / / / / / / /

macule

/ / / / / / / / / / / / / /

6. A freckle is a discolored spot on the skin that is not elevated above the surface. A freckle is an example of a ____________________.

/ / / / / / / / / / / / / /

macule

/ / / / / / / / / / / / / /

7. A macule is ____

______________________________.

/ / / / / / / / / / / / / /

A discolored spot on the skin that is not elevated above the surface

/ / / / / / / / / / / / / /

8. A papule is a small circumscribed solid elevation of the skin. A small circumscribed solid elevation of the skin is a ________________.

/ / / / / / / / / / / / / /

papule

/ / / / / / / / / / / / / /

9. The characteristic lesion of measles is a small solid elevation of the skin grouped close together. These lesions are examples of ________________.

/ / / / / / / / / / / / / /

papules

/ / / / / / / / / / / / / /

10. A small elevation of the skin containing pus is a pustule. A small elevation of the skin containing pus is a ________________.

/ / / / / / / / / / / / / /

pustule

/ / / / / / / / / / / / / /

11. A pustule is a small solid elevation of the skin containing __________.

/ / / / / / / / / / / / / /

pus

/ / / / / / / / / / / / / /

12. Define pustule. ____

____.

/ / / / / / / / / / / / / /

is a small solid elevation of the skin containing pus

/ / / / / / / / / / / / / /

13. A small elevation of the skin containing serous fluid is a vesicle. A vesicle is a ____ ____.

/ / / / / / / / / / / / / / /

A small elevation of the skin containing serous fluid

/ / / / / / / / / / / / / / /

14. The lay term for vesicle is blister. The medical term for blister is ____________________.

/ / / / / / / / / / / / / / /

vesicle

/ / / / / / / / / / / / / / /

15. In second degree burns the patient will develope blisters. These blisters are called ______________________.

/ / / / / / / / / / / / / / /

vesicles

/ / / / / / / / / / / / / / /

16. Define vesicle ____ ____.

/ / / / / / / / / / / / / / /

small elevation of the skin containing serous fluid

/ / / / / / / / / / / / / / /

17. Quiz

Fill in the blank with term that is best described by the statement to the right.

a. ______________________ Small elevation of the skin containing pus.

b. ______________________ A discolored spot on the skin not elevated above the surface.

c. ______________________ Loss of superficial layer of the skin produced by scratching.

d. ______________________ A small circumscribed solid elevation of the skin.

e. ______________________ Small elevation of the skin containing serous fluid.

/ / / / / / / / / / / / / /

a. Pustule
b. Macule
c. Excoriation
d. Papule
e. Vesicle

/ / / / / / / / / / / / / /

GASTROINTESTINAL DISORDERS

1. Abdominal (abdomin) refers to the abdomen. Distention means stretching out.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

2. Abdominal distention may be due to an accumulation of gas or fluid. Accumulation of gas or fluid may cause ____________________ ____________________.

/ / / / / / / / / / / / / /

abdominal - distention

/ / / / / / / / / / / / / /

3. If a patient had an enlargement of the abdomen due to an accumulation of gas or fluid, he is said to have ____________________ ____________________.

/ / / / / / / / / / / / / /

abdominal - distention

/ / / / / / / / / / / / / /

4. Abdominal distention is ____.

/ / / / / / / / / / / / / /

enlargement of the abdomen due to an accumulation of gas or fluid

/ / / / / / / / / / / / / /

5. Ascites is excessive free fluid in the abdominal cavity. Excessive free fluid in the abdominal cavity is called ____________________.

/ / / / / / / / / / / / / /

ascites

/ / / / / / / / / / / / / /

6. Cirrhosis of the liver, heart and kidney diseases, inflammation, and tumors within the abdominal cavity may cause an excessive amount of free fluid in the abdominal cavity This condition is known as ________________________.

/ / / / / / / / / / / / / /

ascites

/ / / / / / / / / / / / / /

7. Ascites is ____

____.

/ / / / / / / / / / / / / /

excessive free fluid in the abdominal cavity

/ / / / / / / / / / / / / /

8. Anorexia (an o-rek'see-ah) is loss of appetite. Loss of appetite is called ____________________.

/ / / / / / / / / / / / / /

anorexia

/ / / / / / / / / / / / / /

9. Unattractive food, surroundings or company may cause your patient to have ____________________.

/ / / / / / / / / / / / / /

anorexia

/ / / / / / / / / / / / / /

10. Anorexia is ____.

/ / / / / / / / / / / / / /

loss of appetite

/ / / / / / / / / / / / / /

11. Cathartic is a drug used to quicken and increase evacuation from the bowels. A drug used to quicken and increase evacuation from the bowel is a ____________________.

/ / / / / / / / / / / / / /

cathartic

/ / / / / / / / / / / / / /

12. A cathartic may be a lubricant, or saline. It increases fluidity of intestinal contents and stimulants increased motor activity. The action of these cathartics are used to ____

_____________________________.

/ / / / / / / / / / / / / /

quicken and increase evacuation from the bowels

/ / / / / / / / / / / / / /

13. Emesis is another term for vomitus. Another term for vomitus is ____________.

/ / / / / / / / / / / / / /

emesis

/ / / / / / / / / / / / / /

14. Emesis is ____________________.

/ / / / / / / / / / / / / /

vomitus

/ / / / / / / / / / / / / /

15. Emulsify: To mix small droplets of one liquid within another liquid. When you mix an oil and vinegar salad dressing you ____________ the oil within the vinegar.

/ / / / / / / / / / / / / /

emulsify

/ / / / / / / / / / / / / /

16. Emulsion is a mixture of small droplets of one liquid within another liquid. A product of the digestive process is a mixture of fat and bile. This mixture is called an __________________.

/ / / / / / / / / / / / / /

emulsion

/ / / / / / / / / / / / / /

17. Flatus is gas or air in the stomach or intestines. The term for gas or air in the stomach or intestines is ________________.

/ / / / / / / / / / / / / /

flatus

/ / / / / / / / / / / / / /

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18. Flatus is ____

______________________________________.

/ / / / / / / / / / / / / / /

gas or air in the stomach or intestines

/ / / / / / / / / / / / / / /

19. Your patient is passing excessive air by belching. He is said to be passing ____________________.

/ / / / / / / / / / / / / / /

flatus

/ / / / / / / / / / / / / / /

20. The preifx "hemat" refers to blood. The word emesis means vomiting.

/ / / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / / /

21. Construct a word meaning vomiting of blood. The term for vomiting of blood is ________________________.

/ / / / / / / / / / / / / / /

hematemesis

/ / / / / / / / / / / / / / /

22. The most common causes of ________________________ are peptic ulcer, cancer of the stomach, traumatic post-op bleeding and swallowed blood.

/ / / / / / / / / / / / / / /

hematemesis

/ / / / / / / / / / / / / / /

23. Hematemesis is ____.

/ / / / / / / / / / / / / / /

vomiting of blood

/ / / / / / / / / / / / / / /

24. Jaundice is yellowing of the skin caused by bile in the blood stream and tissue. Jaundice is not a disease; but a symptom of a number of diseases. Jaundice may also cause yellowing of the whites of the eyes.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

25. Jaundice is yellowing of the ________________ and ____________.

/ / / / / / / / / / / / / /

skin - eyes

/ / / / / / / / / / / / / /

26. Bile in the blood stream and tissue produces ________________.

/ / / / / / / / / / / / / /

jaundice

/ / / / / / / / / / / / / /

27. Diseases to the liver and gallbladder may cause bile to enter the blood stream and liver. If this happens the patient is said to be ______________________.

/ / / / / / / / / / / / / /

jaundice

/ / / / / / / / / / / / / /

28. Jaundice is ____

____.

/ / / / / / / / / / / / / /

yellowing of the skin caused by bile in the blood stream and tissue

/ / / / / / / / / / / / / /

29. Melena is blackish looking stools due to action of intestinal juices on free blood.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

30. Melena is due to ____

______________________________.

/ / / / / / / / / / / / / /

action of intestinal juices on free blood

/ / / / / / / / / / / / / /

31. Blackish looking stools are called ____________________.

/ / / / / / / / / / / / / /

melena

/ / / / / / / / / / / / / /

32. The definition of melena is ____

____.

/ / / / / / / / / / / / / /

blackish looking stools due to action of intestinal
juices on free blood

/ / / / / / / / / / / / / /

33. Nausea is a feeling of sickness in the stomach with an impulse to vomit. A feeling of sickness in the stomach with an impulse to vomit is called ____________________.

/ / / / / / / / / / / / / /

nausea

/ / / / / / / / / / / / / /

34. When nerve endings in the stomach and other parts of the body are irritated, this produces a feeling of sickness in the stomach called ____________________ and you want to vomit.

/ / / / / / / / / / / / / /

nausea

/ / / / / / / / / / / / / /

35. Nausea is ____

____.

/ / / / / / / / / / / / / /

a feeling of sickness in the stomach with an impulse to vomit

/ / / / / / / / / / / / / /

36. Peristalsis is a wave of contractions passing along the alimentary canal. A wave like contraction passing along the alimentary canal is called ______________________.

/ / / / / / / / / / / / / / /

peristalsis

/ / / / / / / / / / / / / / /

37. When food is swallowed, it passes into the esophagus and muscular contractions work the food downward. This is called ____________________________.

/ / / / / / / / / / / / / / /

peristalsis

/ / / / / / / / / / / / / / /

38. Peristalsis also forces food from the stomach into the intestines and through the intestines by a ____________ of _______________________.

/ / / / / / / / / / / / / / /

wave - contractions

/ / / / / / / / / / / / / / /

39. Peristalsis is a ____

____.

/ / / / / / / / / / / / / / /

wave of contractions passing along the alimentary canal

/ / / / / / / / / / / / / / /

40. Resection is surgical removal of a portion of an organ or body part. Surgical removal of a portion of an organ or body part is called __________________________.

/ / / / / / / / / / / / / / /

resection

/ / / / / / / / / / / / / / /

41. Your patient has come back from surgery after having part of his stomach taken out for cancer. He under went a _________________ of his stomach.

/ / / / / / / / / / / / / / /

resection

/ / / / / / / / / / / / / / /

18. Flatus is ____

______________________________.

/ / / / / / / / / / / / / /

gas or air in the stomach or intestines

/ / / / / / / / / / / / / /

19. Your patient is passing excessive air by belching. He is said to be passing ______________.

/ / / / / / / / / / / / / /

flatus

/ / / / / / / / / / / / / /

20. The preifx "hemat" refers to blood. The word emesis means vomiting.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

21. Construct a word meaning vomiting of blood. The term for vomiting of blood is ________________.

/ / / / / / / / / / / / / /

hematemesis

/ / / / / / / / / / / / / /

22. The most common causes of ________________ are peptic ulcer, cancer of the stomach, traumatic post-op bleeding and swallowed blood.

/ / / / / / / / / / / / / /

hematemesis

/ / / / / / / / / / / / / /

23. Hematemesis is ____.

/ / / / / / / / / / / / / /

vomiting of blood

/ / / / / / / / / / / / / /

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24. Jaundice is yellowing of the skin caused by bile in the blood stream and tissue. Jaundice is not a disease; but a symptom of a number of diseases. Jaundice may also cause yellowing of the whites of the eyes.

//////////////

no response

//////////////

25. Jaundice is yellowing of the ________________ and ______________.

//////////////

skin - eyes

//////////////

26. Bile in the blood stream and tissue produces ____________________.

//////////////

jaundice

//////////////

27. Diseases to the liver and gallbladder may cause bile to enter the blood stream and liver. If this happens the patient is said to be ________________________.

//////////////

jaundice

//////////////

28. Jaundice is ____

____.

//////////////

yellowing of the skin caused by bile in the blood stream and tissue

//////////////

29. Melena is blackish looking stools due to action of intestinal juices on free blood.

//////////////

no response

//////////////

42. Resection is ____

____.

/ / / / / / / / / / / / / /

surgical removal of a portion of an organ or body part

/ / / / / / / / / / / / / /

43. Viscera is a term used to designate organs of the chest or abdomen. The term used to designate organs of the chest or abdomen is ________________________.

/ / / / / / / / / / / / / /

viscera

/ / / / / / / / / / / / / /

44. The abdominal viscera can be found in the ______________________ cavity.

/ / / / / / / / / / / / / /

abdominal

/ / / / / / / / / / / / / /

45. Viscera is a term used to ____.

/ / / / / / / / / / / / / /

designate organs of the chest or abdomen

/ / / / / / / / / / / / / /

46. Quiz

Matching the words in column "A" with the definitions in column "B". Put the letter to the left of the definition into the space to the right of the number of the word.

Column A

(1) _____ ascites

(2) _____ jaundice

(3) _____ melena

(4) _____ anorexia

(5) _____ cathertic

Column B

a. blackish looking stool or vomitus

b. drug used to quicken and increase evacuation from the bowels

c. excessive free fluid in the abdominal cavity

d. loss of appetite

e. yellowing of the skin and eyes

/ / / / / / / / / / / / / /

(1) c, (2) e, (3) a, (4) d, (5) b

/ / / / / / / / / / / / / /

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GERIATRICS AND CHRONICALLY ILL

1. Senility is an abnormal loss of mental, physical or emotional control in aged people. The characteristics of old age such as abnormal loss of mental, physical or emotional control is called ______________________.

/ / / / / / / / / / / / / /

senility

/ / / / / / / / / / / / / /

2. The characteristics of old age are abnormal loss of ______________, ____________, or __________________ control.

/ / / / / / / / / / / / / /

mental - physical - emotional

/ / / / / / / / / / / / / /

3. Senescence is the process of growing old. The process of growing old is called ______________________.

/ / / / / / / / / / / / / /

senescence

/ / / / / / / / / / / / / /

4. Geriatrics is the treatment and care of problems related to the aging process. The treatment and care of problems related to the aging process is ____________________.

/ / / / / / / / / / / / / /

geriatrics

/ / / / / / / / / / / / / /

5. Geriatrics is the _________________ and ______________ of problems related to the aging process.

/ / / / / / / / / / / / / /

treatment - care

/ / / / / / / / / / / / / /

6. Gerontology (jer'on-tol'o-je) is the scientific study of the process of aging. The scientific study of the process of aging is ______________________.

/ / / / / / / / / / / / / /

gerontology

/ / / / / / / / / / / / / /

7. Chronic means continuing a long time - or perhaps recurring (happening again and again). A chronic illness is one which is permanent and leaves the patient with a disabling factor.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

8. Chronic means ______________________ a long time - or perhaps ________________.

/ / / / / / / / / / / / / /

continuing - recurring

/ / / / / / / / / / / / / /

9. A patient has a disease of his lungs which leaves him permanently disabled. The term for this condition would be ____________________.

/ / / / / / / / / / / / / /

chronic

/ / / / / / / / / / / / / /

10. Empathy is the ability to place yourself in someone else's position, to recognize another's feelings. The ability to place yourself in someone else's position, to recognize another's feelings is ____________________.

/ / / / / / / / / / / / / /

empathy

/ / / / / / / / / / / / / /

11. Empathy is the ability to place yourself in someone else's position to

__________________ __________________ ________________.

/ / / / / / / / / / / / / /

recognize - another's - feelings

/ / / / / / / / / / / / / /

12. Because you received a bed bath, you are now able to have ____________________ for a patient you give a bed bath to.

/ / / / / / / / / / / / / /

empathy

/ / / / / / / / / / / / / /

13. Rehabilitation is teaching the patient self care to restore the individual to his fullest usefulness.

/ / / / / / / / / / / / / /

no response

/ / / / / / / / / / / / / /

14. Rehabilitation is teaching the ____________________ self care to restore the individual to his fullest ____________________.

/ / / / / / / / / / / / / /

patient - usefulness

/ / / / / / / / / / / / / /

15. The patient is encouraged to be active physically and mentally in order to be restored to his fullest usefulness. The term for this is __________________________.

/ / / / / / / / / / / / / /

rehabilitation

/ / / / / / / / / / / / / /

16. Remission is the period of control during chronic illness (absence of symptoms). The period of control during ____________________ ____________________ is called remission.

/ / / / / / / / / / / / / /

chronic - illness

/ / / / / / / / / / / / / /

17. The term for temporary lessening of a disease or pain is ____________________.

/ / / / / / / / / / / / / /

remission

/ / / / / / / / / / / / / /

18. Exacerbation (eg-zas'-er'ba' shun) is the period of recurrence of symptoms in chronic illness. The period of recurrence of symptoms in chronic illness is ________________.

/ / / / / / / / / / / / / /

exacerbation

/ / / / / / / / / / / / / /

19. Intensification or aggravation of disease symptoms is called ________________.

/ / / / / / / / / / / / / /

exacerbation

/ / / / / / / / / / / / / /

20. Quiz

Match the terms in column "A" with the definitions in column "B". Put the letter to the left of the definition in the space to the left of the term.

Column A	Column B
(1) _____ Senescence	a. the ability to place yourself in anothers position to recognize anothers feeling.
(2) _____ Chronic	b. teaching the patient self care to restore the individual to his/her fullest usefulness.
(3) _____ Empathy	c. continuing a long time - or perhaps recurring.
(4) _____ Remission	d. the process of growing old.
(5) _____ Rehabilitation	e. the period of control during chronic illness.

/ / / / / / / / / / / / / /

(1) d, (2) c, (3) a, (4) e, (5) b

/ / / / / / / / / / / / / /

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STUDY GUIDE AND WORKBOOK 3ABR90230-V-2

DEPARTMENT OF NURSING

10-11
Block V

MEDICAL SERVICE SPECIALIST

THE PATIENT WITH NEUROLOGICAL DISORDERS

August 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
SHEPPARD AIR FORCE BASE, TEXAS

Designed For ATC Course Use

DO NOT USE ON THE JOB

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

SW 3ABR90230-V-2
August 1975

THE PATIENT WITH NEUROLOGICAL DISORDERS

OBJECTIVES

a. Select neurological terms and principles about the anatomy and physiology of a neurological patient.

b. Select the basic patient needs and nursing care approaches for a patient with neurological disorders.

c. Select basic facts and principles related to neurological diagnostic, therapeutic and special nursing procedures.

INTRODUCTION

The nervous system is the means by which the human body is integrated and enabled to function as a whole. Networks of nerve cells, some with fibers several feet long, run throughout the body, connecting all tissues and organs with the 10 billion nerve cells of the brain. Electrical impulses travel along these pathways at speeds ranging from 2 to 200 miles an hour, relaying information to and from the brain. Only a nervous system as elaborate as man's makes possible his demanding physical and intellectual activities.

You should realize how superb and complex the nervous system is and how all of the body functions depend on this system staying intact. Disorders of the central nervous system can be divided into three main categories: head injuries, spinal cord injuries, and epilepsy or seizure disorders.

STUDY ASSIGNMENT

In order to care for patients with neurological disorders, one must have a basic knowledge of this complex system. Without this knowledge, you cannot possibly give this type of patient the comprehensive care he requires.

1. Read this SW prior to class discussion.

2. Answer the study questions and label the diagram.

3. Complete the Neurology Section of the Terminology Programmed Text prior to class discussion.

INFORMATION

NEUROLOGICAL TERMS AND PRINCIPLES ABOUT ANATOMY AND PHYSIOLOGY OF A NEUROLOGICAL PATIENT

1. Terminology
   a. Paralysis

   b. Paraplegia

      (1)

      (2)

   c. Quadraplegia

      (1)

      (2)

   d. Hemiplegia

   e. Intracranial Pressure

   f. Neurological disorder

   g. Unconsciousness

   h. Concussion

   i. Contusion

   j. Stroke--Cerebrovascular Accident

2. Describe anatomy and physiology

   a. Functions

      (1)

      (2)

   b. Composition

      (1)

      (2)

      (3)

   c. Divisions of nervous system

      (1)

         (a) Brain

            1 Cerebrum

            2 Cerebellum

            3 Medulla oblongata

               a

b

c

(b) Spinal cord

1

2

3

(2) Peripheral nervous system

(a) Cranio-spinal division

(b) Autonomic division

1 Sympathetic

2 Parasympathetic

3

(c) Cranium

1

2

(d) Meninges and meningeal spaces

1

2

3

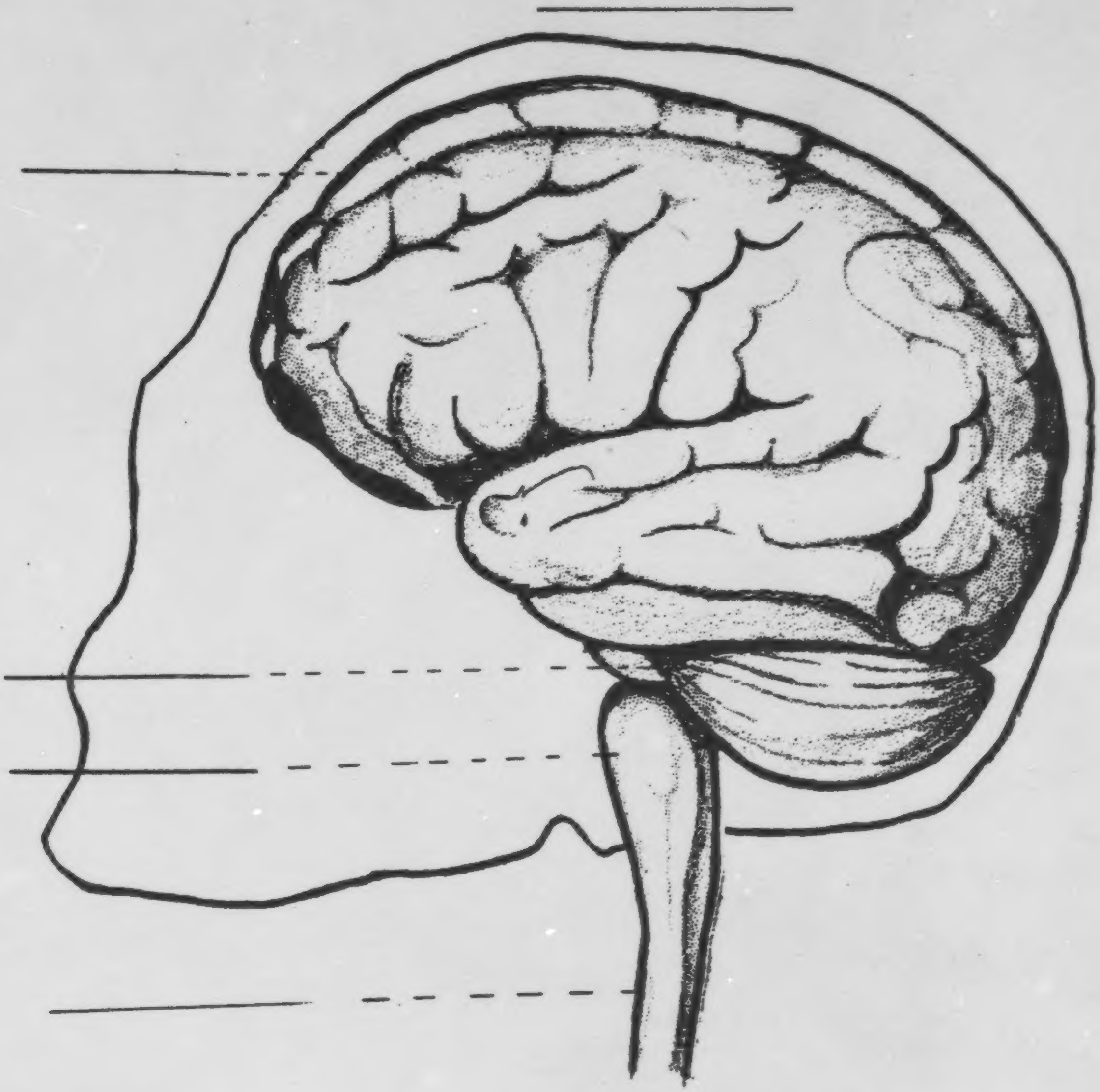
(e) Cerebrospinal fluid

1

2

3

Label the parts of the brain.



BASIC PATIENT NEEDS AND NURSING CARE APPROACHES FOR A PATIENT WITH A NEUROLOGICAL DISORDER

1. Central nervous system disorders

   a. Head injuries

      (1) Concussion

         (a)

         (b)

            1

            2

            3

      (2) Nursing care

         (a)

         (b)

         (c)

         (d)

(3) Contusion

- (a)
- (b)
    - 1
    - 2
    - 3
    - 4
    - 5

(4) Nursing care

- (a)
- (b)
- (c)
- (d)

(5) Stroke (CVA) cerebrovascular accident

(a)

(b)

(6) Signs and Symptoms

(a)

(b)

(c)

(7) Nursing Care

(a)

(b)

(c)

(d)

(e)

(8) Complications of head injuries

(a) Increased intracranial pressure

1

2

a

b

(b) Decrease in levels of consciousness

1

2

3

4

5

(c) Change in vital signs

1

2

(d) Pupil changes

1

2

3

(e) Other signs and symptoms

1

2

3

b. Spinal cord injuries

(1)

(2)

(3)

(4) Paralysis

(a)

(b)

(c)

(d) Duration of paralysis

1

a

b

2

a

b

(e) Other signs and symptons of injury to spinal cord

1

2

3

4

5

337

c. Epilepsy

(1)

(2) There are four types, but we will discuss only one--grand mal

(a)

(b)

(c)

(d)

(3) Causes

(a)

(b)

(c)

(d)

(e)

(f)

36

(4) Grand mal seizure

(a)

(b)

(c)

(d)

(e)

(f)

1 Aura

a

b

c

2

3

4 Tonic Phase

a

b

c

5 Clonic Phase

6 Deep Sleep

a

b

c

d

(5) Care of an epileptic

(a)

(b) Prevent further injury by

1

2

(6) Observation

(a) Before the seizure

1

2

3

4

5

(b) During the seizure--Possible indication of the type of seizure the patient is having

1

2

3

a

b

c

d

e

f

341

(c) After the seizure

1

2

3

4

BASIC FACTS AND PRINCIPLES RELATED TO NEUROLOGICAL, DIAGNOSTIC, THERAPEUTIC AND SPECIAL NURSING PROCEDURES

1. General nursing approaches

a. Physical

(1) Skin care

(a)

1 Color of skin

a

b

c

373

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b. Preventing decubiti

(1)

(2)

(3)

(4)

(5)

(6)

(7)

c. Mouth care

(1)

(2)

(3)

(4)

d. Eye care

(1) Eye irrigation

343

(a)

(b)

(c)

(2) Eye drops

(a)

(b)

(c)

(3) Eye shields

(a)

(b)

(c)

e. Nutritional needs

(1) Conscious patients

(a)

(b)

(c)

(d)

(2) Unconscious patients ·

(a)

(b)

(c) Levin tube

1

2

3

4

5

(d) Gastrostomy

1

2

3

f. Bowel and bladder care

(1) Bowel training

(a)

(b) Bowel training consists of

1

2

3

(c)

(d)

(2) Bladder care

(a)

(b)

(c)

(d)

(e)

g. Prevention of deformities

(1)

(2) Proper body position

(a)

(b)

(c)

(d)

(e)

(f)

(3)

(4)

(a)

(b)

1

2

(c)

(d)

h. Controlling the temperature

(1)

(2)

(3)

(4)

(5)

i. Hypostatic Pneumonia

(1)

(2) Treatment

(a)

(b)

(c)

2. Emotional care

    a. Unconscious patient

        (1)

        (2)

        (3)

    b. Conscious patient

        (1)

        (2)

        (3)

        (4)

3. Rehabilitation

    a.

    b.

    c. Factors that affect rehabilitation

        (1)

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(2)

(3)

(4)

(5)

4. Lumbar puncture

a.

b. Responsibilities of MSS

(1) Before procedure

(a)

(b)

(c)

(d)

(2) During procedure

(a)

(b)

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(3) After Procedure

(a)

(b)

(c)

(d)

TURNING FRAMES

We have discussed the neurological problems of head injuries, spinal cord injuries, seizures, and the nursing care of neurological patients. Now we will cover the care and procedures pertaining to the responsibilities of a Medical Service Specialist in the use of a turning frame.

There are two categories of turning frames. The first category includes the Stryker Frame and Foster Bed/Frame, and the second, the Circo-electric Bed. The difference in the categories is that in the first, the patient is turned side to side, and in the second, the patient is turned by elevating the head.

The purposes for a Stryker or Foster frames are to immobilize, provide ease in turning, to reduce chances for further injury and to help keep the vertebral column in proper alignment.

The safety factors to be observed when using the Stryker or Foster frames are to check the entire frame for security; be sure the patient is correctly aligned; be sure the patient is fitted snuggly between the frames (use a pillow and trocanter rolls if necessary); attach the safety straps at three places - at the level of the chest, waist and knees; do not move or touch locks until patient is ready for movement; turn patient in one continuous swift motion; make sure that the locks are in place securely after the move and lastly use two people to turn the patient.

In the Circo-electric bed, there are a few differences from the Stryker and Foster frames. It can be operated electrically or manually and it allows for a variety of positions, rather than only prone or supline. Even in the safety factors, there are some similarities and differences.

The Circo-electric bed is never plugged in until it is ready to be used. The foot piece (used as a foot board) fits snuggly against the feet and turning should be controlled by someone other than the patient. Be sure the patient is ready to be moved, properly fitted between the two frames, properly aligned and have the three straps secured on him as in the Stryker and Foster Frames.

NOTES:

QUESTIONS

Answer the study questions on the following pages. Check your answers with the answers in the back.

1. What are the two functions of ther nervous system?

2. What are the two main divisions of the nervous system?

3. The central nervous system is composed of the ______________________________

   ____________________ and the ______________________________.

4. The cranio-spinal division controls ______________________________ activities.

5. The autonomatic division controls ____________________________ activities.

6. The autonomatic system is subdivided into two systems. What are they?

7. List the three major parts of the brain.

   a.

   b.

   c.

8. Name one function of the spinal cord.

9. The meningeal spaces contain ____________________________________.

10. If a patient is paralyzed on the right side of his body, he is said to have right sided __________________________________.

11. Define the following terms:

Stroke -

Contusion -

Concussion -

Unconsciousness -

Intracranial pressure -

Paraplegia -

Quadriplegia -

12. Any disease or injury to ther nervous system is called a ____________________ ______________________.

13. List the five decreasing levels of consciousness.

14. What other neurological signs are checked frequently by the M.S.S.?

15. Dilated pupils is one of the symptoms of a ____________________________.

16. The "jarring of the brain" is the definition of a ______________________.

17. The primary signs and symptoms for a contusion are _________________________
____.

18. Amnesia is one of the signs and symptoms for both concussion and contusion. True or False (underline correct answer)

Fill in the space(s) with the correct response(s). Refer to your study guide only if necessary.

19. Decubitus ulcer or "_______________ _______________" usually start at
____.

20. Turning a patient every _________________ hour(s) reduces greatly the danger of decubitus ulcers.

21. Mouth care should be given every ________________ to ______________ hours.

22. __________________ and __________________ mouth swabs are available for the patient's use.

23. Rinsing out the mouth of an unconscious patient reduces the time spent with him on oral care. True or False (underline correct answer)

24. A good temporary eye patch is cut exposed x-ray film. True or False (Underline correct answer)

25. ____________________ is an indication of fecal impaction.

26. Deformities can be prevented by proper position and _______________ _______________ _______________.

27. The conscious patient may become depressed due to his ____________________.

28. Rehabilitation begins when? ____.

29. What are the responsibilities of the MSS during a lumbar puncture?

30. In turning a patient on a Stryker or Foster frame, how many straps are used?

31. One of the purposes for a Stryker Frame is to ____________________ the patient.

32. It only takes two people to move and carry a back injury case. True or False (underline correct answer)

ANSWERS

1. What are the two functions of the nervous system?

   Stimulus response mechanism that coordinates and regulates all body functions

   Makes adjustment to internal and external changes

2. What are the two main divisions of the nervous system?

   Central nervous system

   Peripheral

3. The central nervous system is composed of the brain and the spinal cord.

4. The cranio-spinal division controls senses and voluntary muscle activities

5. The autonomatic division controls involuntary activities.

6. The autonomatic system is subdivided into two systems. What are they?

   Sympathetic

   Parasympathetic

7. List the three major parts of the brain.

   a. Cerebrum

   b. Cerebellum

   c. Medulla Oblongata

8. Name one function of the spinal cord.

   Acts as a reflex center/relay station

9. The meningeal spaces contain cerebrospinal fluid.

10. If a patient is paralyzed on the right side of his body, he is said to have right sided hemiplegia.

11. Define the following terms:

    Stroke - Damage to brain tissue due to inadequate blood supply

    Contusion - A bruising or tearing of the brain

    Concussion - A jarring of the brain

    Unconsciousness - Not aware of surrounding - Not receiving stimuli

    Intracranial pressure - Pressure inside the cranium caused by swelling or hemorrhage

    Paraplegia - Paralysis of lower extremities

    Quadriplegia - Paralysis of all four extremities

12. Any disease or injury to the nervous system is called a neurological disorder.

13. List the five decreasing levels of consciousness.

The decreasing levels of consciousness are:

1. Alert and oriented
2. Alert but disoriented
3. Sleepy but easy to arouse
4. Responds only to painful stimuli
5. Totally unresponsive

14. What other neurological signs are checked frequently by the M.S.S.?

Pupils, vital signs

15. Dilated pupils is one of the symptoms of a head injury.

16. The "jarring of the brain" is the definition of a concussion.

17. The primary signs and symptoms for a contusion are prolonged unconsciousness, amnesia, headaches, nausea, dilated pupils.

18. Amnesia is one of the signs and symptoms for both concussion and contusion. True or False (underline correct answer)

Fill in the space(s) with the correct response(s). Refer to your study guide only if necessary.

19. Decubitus ulcer or "bed sores" usually start at boney promineces.

20. Turning a patient every 2 hour(s) reduces greatly the danger of decubitus ulcers.

21. Mouth care should be given every 2 to 4 hours.

22. Lemon and glycerin mouth swabs are available for the patient's use.

23. Rinsing out the mouth of an unconscious patient reduces the time spent with him on oral care. True or False (underline correct answer)

24. A good temporary eye patch is cut exposed x-ray film. True or False (underline correct answer)

25. Diarrhea is an indication of fecal impaction.

26. Deformities can be prevented by proper position and body alignment.

27. The conscious patient may become depressed due to his dependence.

28. Rehabilitation begins when? Upon admission

29. What are the responsibilities of the MSS during a lumbar puncture?

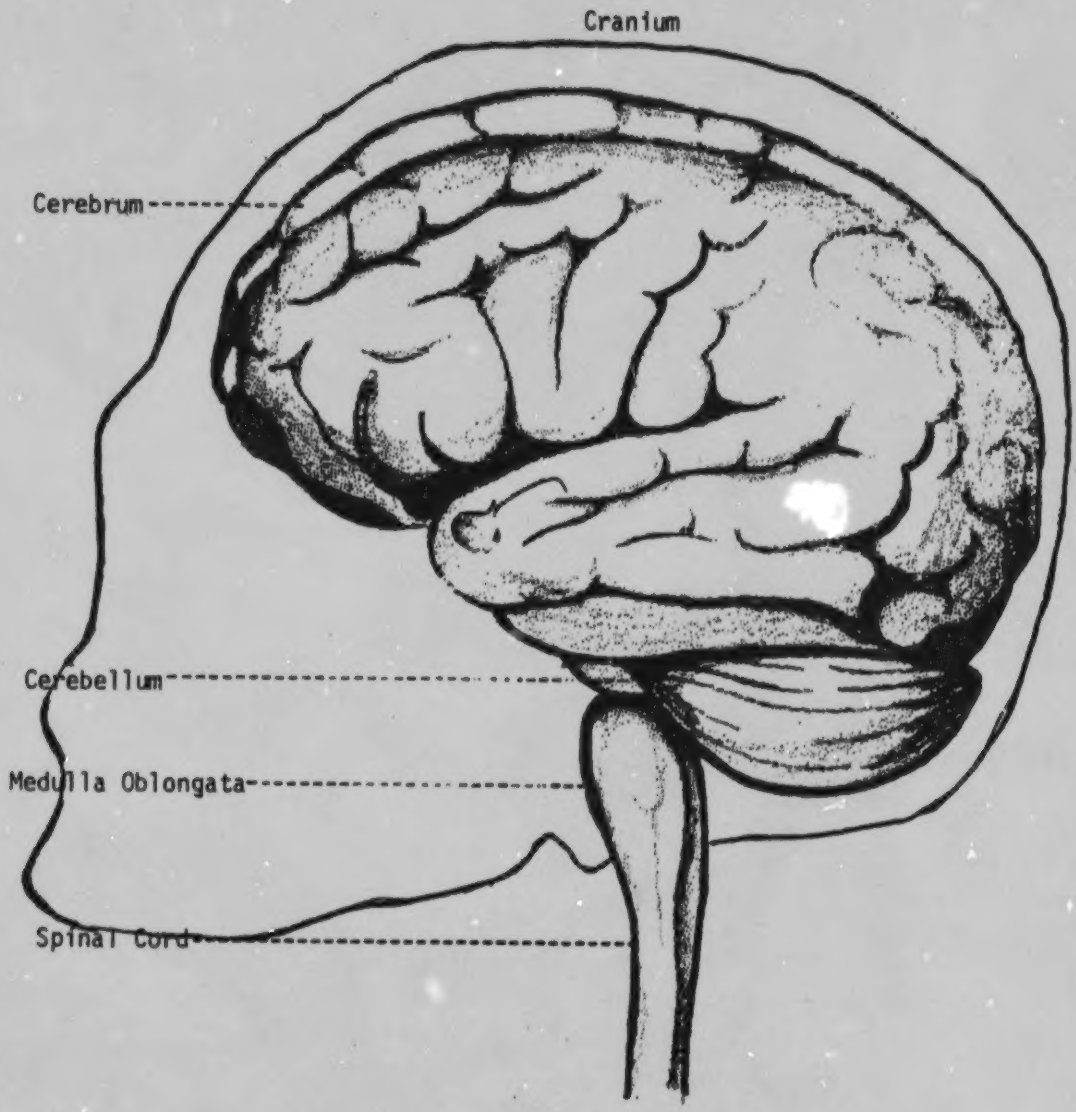
Keeping the patient in proper position, maintaing S.A.T.

30. In turning a patient on a Stryker or Foster frame, how many straps are used? 3

31. One of the purposes for a Stryker Frame is to immobilize the patient.

32. It only takes two people to move and carry a back injury case.

True or False (underline correct answer)


Cranium
Cerebrum
Cerebellum
Medulla Oblongata
Spinal Cord

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STUDY GUIDE AND WORKBOOK
3ABR90230-V-3

Technical Training

Medical Service Specialist

THE OBSTETRICAL PATIENT AND THE NEWBORN

February 1976

SCHOOL OF HEALTH CARE SCIENCES, USAF
Department of Nursing
Sheppard Air Force Base, Texas 76311

Designed For ATC Course Use

DO NOT USE ON THE JOB

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

SW 3ABR90230-V-3
February 1976

THE OBSTETRICAL PATIENT AND THE NEWBORN

OBJECTIVES

a. Select the obstetrical facts and principles about the anatomy and physiology of the obstetrical and newborn patient.

b. Select the basic patient needs and nursing care approaches for an obstetrical patient.

c. Select the basic facts and principles related to emergency delivery procedures.

d. Select the basic patient needs and nursing care approaches for a newborn patient.

INTRODUCTION

Of the four major areas into which hospitals are divided - surgery, medicine, pediatrics, and obstetrics - obstetrics is the one with which you are most likely to have contact, even though you may never be assigned to work on an OB Ward. In the not too distant future, you will probably be an expectant father, bringing your wife to the hospital to deliver a child. Until today, you could bring her to the hospital, fill out the necessary forms and then sit back and wait - oblivious to what was happening behind the closed doors of the labor and delivery rooms. Today, those doors will be open for you.

For the females reading this Study Guide and Workbook, this information may help you to be a healthier, more prepared mother, and to have a healthier baby at some time in your life.

INSTRUCTIONS

1. Before class discussion, review Obstetrical and Newborn Terms in Terminology Book prior to completing the following exercise. Fill in the blank to the left of each statement with the word that is best described by that statement. Confirm your response after you have completed all 28 questions.

2. Review AFM 160-34, Page 2-38 thru 2-40.

3. Review this Study Guide and Workbook and complete all review exercises prior to class discussion.

This supersedes SW 3ABR90230-V-3 , August 1975

INFORMATION

TERMINOLOGY

1. ______________ product of conception after the first trimester.
2. ______________ monthly flow of blood from the uterus that contains destroyed uterine lining.
3. ______________ the temporary structure within the uterus, which establishes communication between mother and fetus/embryo through the umbilical cord.
4. ______________ before birth.
5. ______________ woman pregnant for the first time.
6. ______________ incision of the perineum.
7. ______________ secretion of milk.
8. ______________ first stool from newborn, contains material swallowed by infant while in the uterus.
9. ______________ woman who has not had a child.
10. ______________ capable of sustaining life.
11. ______________ product of conception through the first trimester.
12. ______________ impregnation of ovum by a sperm.
13. ______________ process by which the fetus, placenta, and membranes are expelled from the uterus.
14. ______________ transports nutrients and oxygen to the embryo/fetus and carries waste products away.
15. ______________ uterine discharge during early postpartum period.
16. ______________ stretching of the cervix beyond its normal dimensions.
17. ______________ expulsion of the product of conception before they are viable.
18. ______________ woman who has given birth to two or more living children.
19. ______________ woman who has given birth to her first living child.
20. ______________ membranous sac containing fluid, inside which the fetus/embryo is contained.
21. ______________ removal of all or part of the foreskin from the penis.
22. ______________ tightness of the penis foreskin so that it cannot be drawn back over the glans.
23. ______________ Pregnant.

24. ______________________ Number of living babies a woman has delivered.

25. ______________________ Woman pregnant for the second or subsequent time.

26. ______________________ Babies head causes the vaginal opening to bulge.

27. __________ __________ Area between the vagina and anus.

28. ______________________ Time after delivery that it takes the female uterus to return to its pre-pregnant state.

ANATOMY AND PHYSIOLOGY
(Review Pages 2-38 to 2-40 in AFM 160-34)

Bones of the Pelvis

The pelvis is formed by the innominate bones. These bones are: the ilium, ischium and pubis. The sacrum and coccyx are fused together and form the posterior boundary of the pelvis.

Using study references, label the above mentioned bones on the following diagrams. (Refer to Figure 1, page 4.)

The ____________ are the primary sex organs of the female reproductive system. They lie ______________________________ of the uterus. The ovaries correspond to the testes in the male. Their functions are:

The ________________ are two, thin, flexible, trumpet-shaped tubes which connect the ovaries with the uterus. Their functions are:

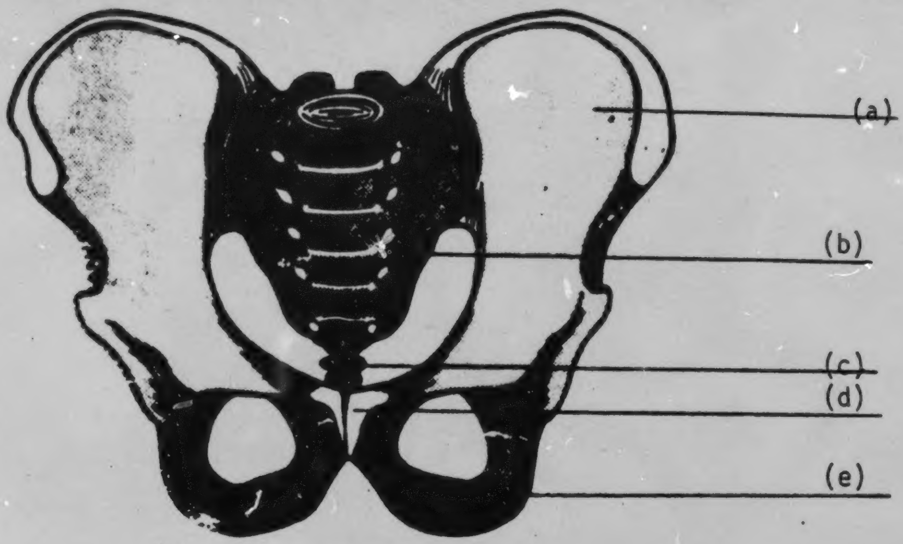
A major part of the reproductive system is the __________________________. This is a hollow, thick-walled, organ which is divided into three parts:

________________ - the uppermost part.

________________ - the middle portion.

________________ - which is the lower most part.

The main functions of the uterus are:



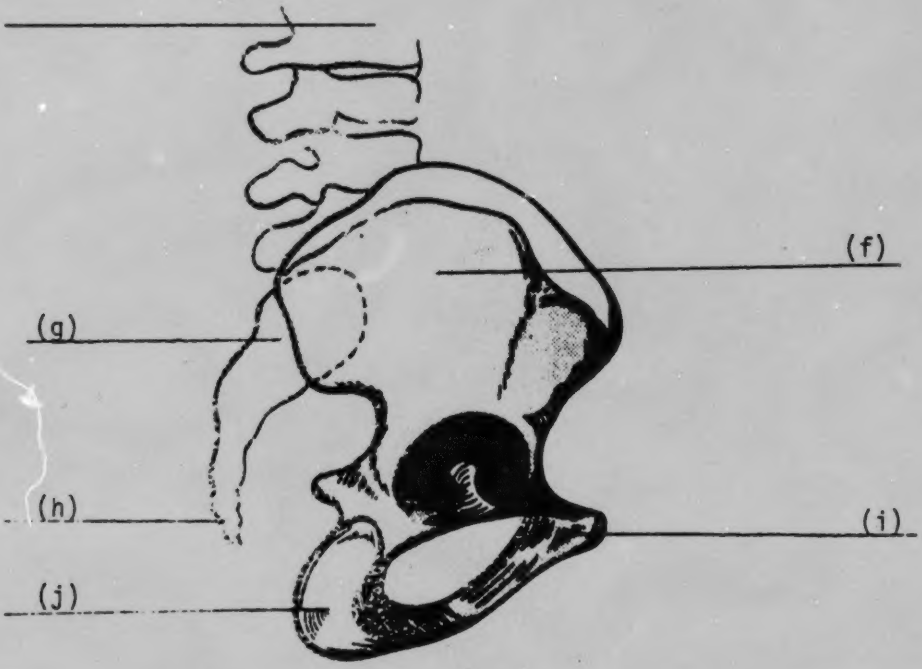
a. ____________________

b. ____________________

c. ____________________

d. ____________________

e. ____________________



f. ____________________

g. ____________________

h. ____________________

i. ____________________

j. ____________________

Figure 1

The last part of the female reproductive system is the ____________________. It is the passageway which connects the cervix with the outside of the body and has three functions:

The external genitalia of the female consists of:

1.

2.

3.

4.

5.

6.

7.

The ____________________ is a fatty pad over the pubis bone which is covered with hair after the age of puberty.

The ____________________ are two large outer folds of fat and skin which extend downward almost to the anus.

At the anterior junction of the labia is the ______________, a very small structure comparable to the penis in the male. It contains many sensory nerve endings which are stimulated by sexual sensations.

Posterior to the clitoris and between the labia minora is the space called ________ __________. Within the vestibule is found the urinary meatus (urethra) and the vaginal opening. The vestibule also contains the __________________________, which are considered the glands of lubrication.

The space between the vaginal opening and the anus is called the perineum. It is made up of strong muscles which act as "slinglike" supports for the pelvic organs.

EXERCISES

Three diagrams of the female reproductive system and the names of the structures are on the following pages. Place the name of the structure in the space to the right of the corresponding letter. (Refer to Figures 2, 3 and 4.)

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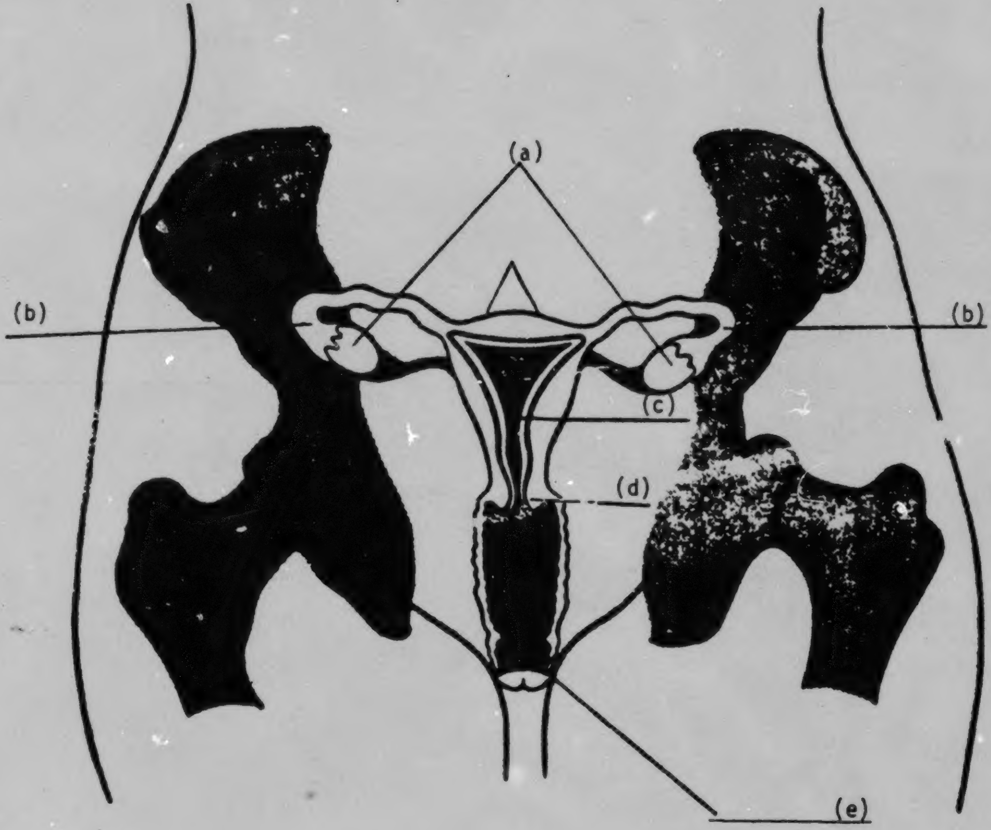

Figure 2

a. ______________________
b. ______________________
c. ______________________
d. ______________________
e. ______________________

Ovaries

Fallopian Tubes

Uterus

Vagina

Cervix

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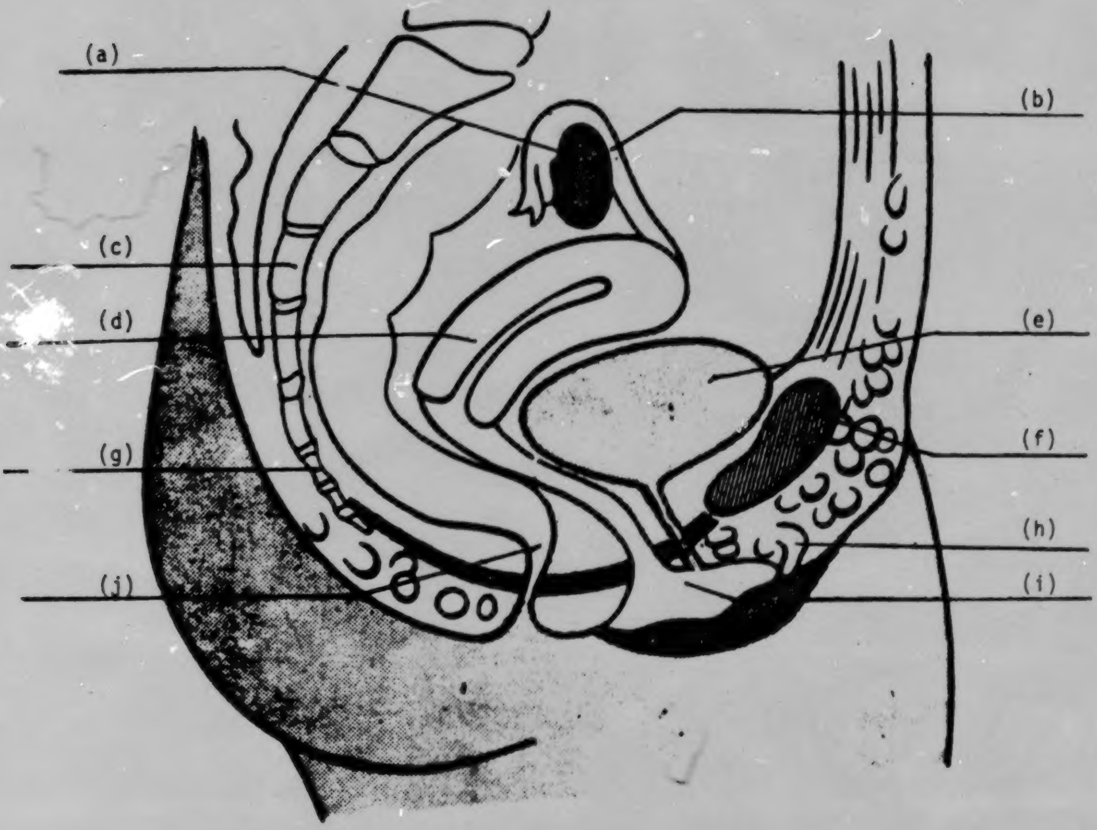

This diagram also show the organs of the female reproductive system, but from a different angle and in relation to other organs and structure of the pelvis.

Figure 3

a. ________________ f. ________________

b. ________________ g. ________________

c. ________________ h. ________________

d. ________________ i. ________________

e. ________________ j. ________________

Bladder

Rectum

Ovary

Pubis Bone

Clitoris

Coccyx

Sacrum

Fallopian Tube

Vagina

Uterus

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Menstruation

Menstruation is a cycle bleeding from the uterus that escapes through the vagina. The flow, once established, occurs at intervals ranging from every 21 to 35 days (average of 28 days) and lasting approximately three to five days. In preparation, the endometrium, which is the lining of the uterus, builds up extra tissues and blood. If the ovum is fertilized, it imbeds itself in this lining and nourishes itself. If the ovum is not fertilized, the lining is no longer needed and is expelled from the body, approximately two weeks after ovulation.

There are physical and emotional changes associated with menstruation. These changes are due to changes in hormone levels and are temporary. They should not affect or limit normal daily activity.

Signs and Symptoms of Pregnancy

The signs and symptoms of pregnancy vary with many patients and are classified in three groups. The first is called Presumptive (possible) signs which include cessation of menses, frequent urination, nausea and vomiting, change in the size and color of the breast, and quickening (feeling of movement by the mother). The second group is called Probable (more definite), but not yet 100% positive proof. These signs are enlargement of the abdomen, cervical changes that vary with individuals, and a positive pregnancy test. The last group is called Positive - signs and symptoms which leave no doubt of pregnancy. They include hearing the fetal heart tone (F.H.T.) at approximately the 20th week of pregnancy, the movement of the fetus felt by an experienced examiner and also an X-ray of the abdomen showing appearance of the fetal skeletal system.

Changes of Pregnancy

The reproductive system will undergo the greatest change of all body systems during pregnancy. There is a tremendous increase in the size of the uterus which is necessary to make room for the growing fetus. This great increase changes the woman's center of gravity and she adjusts by leaning backward to maintain her balance when she walks.

Another vital change that the uterus will undergo will be the formation of a mucus plug in the cervix. This plug seals the uterus off from infection. The reproductive system has another role during pregnancy affecting the mammary glands located in the breast. The breasts undergo a process called lactation, which is the formation of milk. As lactation continues the size of the breasts enlarges.

The cardiovascular system's prime function during pregnancy is to increase its blood 30 - 50 percent. This means that the pregnant woman has 500 - 1000 cc's more blood, therefore, the heart must work harder. Also, during pregnancy the blood vessels are affected, especially in the legs. This is due to the enlarged uterus pressing against blood vessels and making the return of blood to the heart more difficult. When this happens the condition known as varicose veins may occur.

The respirator system during pregnancy is usually affected in the later months. Dyspnea, due to the growing uterus pushing on the diaphragm, will probably be the only change in the respiratory system.

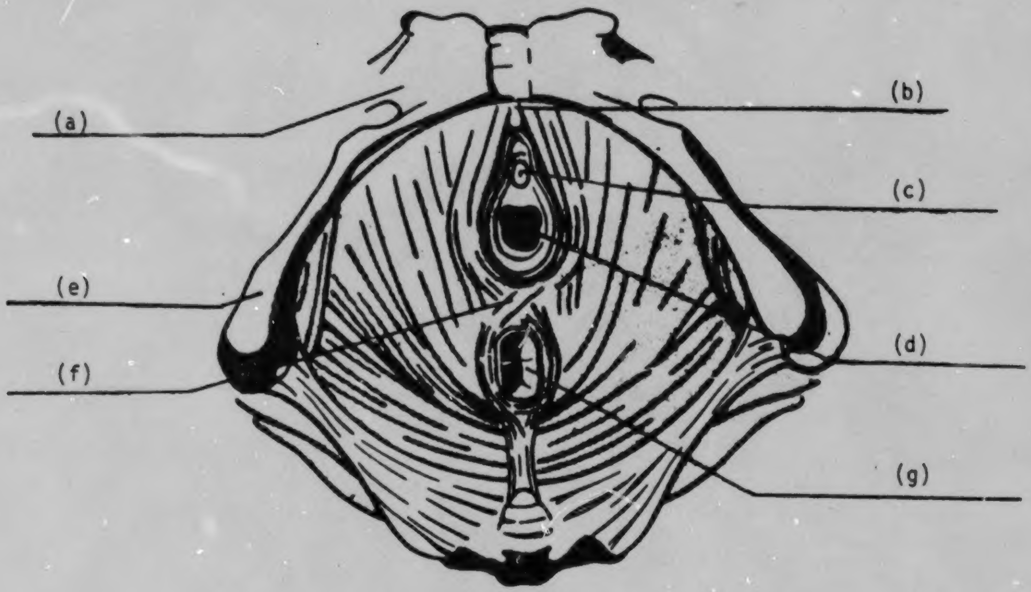

Figure 4

a. ______________________ e. ______________________

b. ______________________ f. ______________________

c. ______________________ g. ______________________

d. ______________________

Anus

Pubis

Urethra

Perineum

Clitoris

Vagina

Ischium

7. The part of the female reproductive system which may also be called the birth canal is the ______________________________.

8. List two of the three positive signs of pregnancy.

   a. ______________________________

   b. ______________________________

9. During pregnancy, a mucous plug is formed inside the ______________ to protect the uterus from ______________________________.

10. As a result of ______________ blood volume, the heart of a pregnant woman must work ______________.

11. Varicose veins, dyspnea, and urinary frequency are common problems of pregnancy. Why do they occur?

12. During pregnancy, changes in coloration of parts of the body frequently occur. Two parts of the body commonly affected by such changes are the ______________ and the ______________.

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PRENATAL CLINIC CARE

The aim of prenatal care is to bring the mother through her pregnancy with a minimum of physical and emotional problems and to keep her as healthy as possible, so that the end result will be a healthy and happy mother and baby.

The pregnant woman will visit the clinic at least once a month for the first 7 - 8 months, then once a week from 8 months on to delivery. These are some of the procedures the MSS will perform: Checking vital signs especially the blood pressure, weighing patients, (excessive weight gain is dangerous), obtaining urine specimens for presence of sugar and albumin, and checking fetal heart tones under a nurse's supervision. Other routine clinic procedures such as measuring the pelvis, blood tests and obtaining general medical and obstetrical histories will be performed by the doctor or nurse.

Preparation for Hospitalization

Since we have no way of knowing exactly when labor will begin, it is important to have the mother prepare for it in advance, so she can get to the hospital as quickly as possible when labor begins. She should consider the following preparations: Time the trip to hospital. Be sure transportation is available. We also advise the expectant woman about packing a bag. She should bring only necessities with her to the hospital (a gown, toothbrush, bra's, etc.) Pack a separate bag for the baby. The father can bring it to the hospital later. Also, she should know where the OB and Labor - Delivery section is within the hospital and how to get there once she arrives at the hospital. She should leave money, jewelry and other valuables at home.

The digestive system, like all other systems, undergoes change in the expectant woman. Along with having a poor appetite, she may have "morning sickness" usually during the first trimester of pregnancy. Other digestive problems that may arise are heartburn and constipation, because of pressure of the uterus against the bowel, and because the activity of the G.I. tract slows down during pregnancy. Skin changes may include an increase in the pigmentation, especially of the face, areola (the nipple of the breast) and the abdomen. Also there is an increase in the activity of sweat glands. This is good for the pregnant woman because it is helpful in eliminating body wastes. This last change makes it even more important to stress personal hygiene.

Last to be mentioned is the urinary system. There will be frequency of urination due to pressure applied to the bladder as the uterus increases with the weight of the growing fetus.

Emotional changes may or may not be apparent, dependent upon how stable the woman was before becoming pregnant. However, in the last few weeks of pregnancy certain emotional changes do occur. As the time for her delivery comes near, the woman becomes increasingly tense, irritable, and impatient. She worries more about the baby. All women, regardless of past experience and education, approach delivery with some anxieties.

We now see that there are many changes the pregnant woman must go through. These changes are, for the most part, temporary and will return to normal when the pregnancy is over. The varicose veins and a few of the stretch marks may remain but will be of less severity.

QUESTIONS (Fill in the blanks.)

1. The innominate bone consists of the ________________, the ________________, and the ________________________.

2. The primary sex organs of the female are the ________________________.

3. Besides producing and and expelling ova, the ________________________ also produce the hormones, ________________, and ________________.

4. Fertilization occurs within the ________________________________.

5. The three divisions of the uterus are the ________________, the ________________, and the ________________.

6. Why does menstruation occur? (Explain briefly in 1 or 2 sentences.)

____

____

____

____

____

Danger Signals During Pregnancy

There are several danger signals which are to be reported immediately if they occur at any time during the pregnancy:

1.

2.

3.

4.

5.

6.

7.

LABOR AND DELIVERY CARE

You now have the mother at term. She's in her ninth month, ready to deliver, ready both physically and emotionally. She's tired of looking like a blimp. She's tired of carrying that load around. She'd love to sleep on her stomach again. The sooner she has this baby the better. Let's then learn about what goes on during labor and delivery.

Labor is the process by which the fetus, placenta, and membranes are expelled from the mother's body. There are three signs of impending labor. Lightening is when the fetus moves downward in the pelvis. In the first pregnancy, lightening occurs 2 to 4 weeks before labor. In successive pregnancies, lightening occurs when labor begins. The mother may have false labor, which is short, ineffective uterine contractions without cervical dilation occurring at irregular intervals. It sometimes begins 3 to 4 weeks before true labor, and the patient feels embarrassed and disappointed when she discovers she came to the hospital because of false labor contractions. Lastly, the pregnant woman becomes restless and may develop an unusual amount of energy. It will be necessary to remind her to conserve as much energy as possible, but still continue normal activities.

Admission and Preparation for Delivery

Once labor has started, the patient will come to the hospital at the time in her labor she was instructed to do so by her doctor. When the patient arrives, greet her warmly and explain to her what is going to happen, as she may be afraid and uncertain. If the patient is tense and apprehensive, the labor will be more difficult. After you have greeted her, it is necessary to obtain pertinent information. Obtain her prenatal record, ask her the time her contractions began, how often they are, and how long they last. Also, we would ask her if, and when, the membranes ruptured, and when she last ate. After you have this information, put the patient to bed and take her vital signs and the fetal heart tones.

After those procedures are completed, prepare the patient for examination. The doctor or nurse will examine the position of the fetus by examining and palpating the abdomen. Also, the nurse or doctor will examine the cervix to see how widely dilated it is. This is done by either a rectal or a vaginal examination.

The external genitalia is shaved to minimize infection, to provide a cleaner area for the episiotomy, and to provide a clear area to observe the progress of labor. To make the procedure more confortable for the patient, you should ensure her privacy, shave her only between contractions, and avoid unnecessary exposure.

An enema is given to empty the lower bowel, reduce the possibility of slowing down labor and to prevent fecal contamination at delivery. The patient should be lying on her side with her knees flexed (Sims Position). Administer the water slowly, and be gentle. Allow the patient to rest after the procedure. If her membranes have not ruptured, she may use the bathroom. This enema reduces discomfort during labor due to the fact that a full bowel takes up space in the pelvis and makes the uterus work harder. NEVER administer an enema when delivery is imminent.

A full bladder is more of a problem during labor than at any other time because with all the other feelings of labor, the patient may not be able to recognize the ones that tells her that her bladder needs emptying. Some of the dangers of a full bladder are that it delays labor, increases patient discomfort, makes abdominal examinations more difficult, and invites urinary tract infection. Therefore, we should encourage the patient to void frequently. It may be necessary to catheterize the patient immediately before delivery.

Checking Vital Signs

All vital signs are taken between contractions, as the blood pressure is elevated and fetal heart tones are depressed during the contraction. The patient's TPR is taken every four hours, and the B/P every two hours. The fetal heart tones are taken every hour. All vital signs are taken more frequently as the labor progresses.

Observe for Complications

Signs of fetal difficulty to observe for during labor are:

Signs of maternal difficulty to observe for during labor are:

First Stage of Labor

The first stage of labor is the time from the beginning of active (true) labor until the cervix is fully dilated.

Signs of onset are regular uterine contractions causing discomfort in the lower abdomen. This stage of labor may be the longest of the four stages; in the first labor, it may last up to 12 hours, in successive labors only 1 - 2 hours, and can be very tiring.

These uterine contractions may be 30 - 45 minutes apart and last 15 - 20 seconds. The contractions serve to open the cervix and move the fetus down into the birth canal.

The next sign of onset is show, a vaginal discharge of mucus, caused by a release of the mucus plug as the cervix begins to dilate. The show may or may not be mixed with small amounts of blood, and sometimes accompanies false labor.

The third sign of the onset of labor is the rupture of the amniotic membranes. This may occur before or during active labor. The rupture will be either a sudden gush or a slow leakage of fluid from the vagina. If the membranes do not rupture spontaneously, the doctor will rupture them, but only after labor has begun. When the membranes rupture prematurely, there is danger of infection.

As you can see, these latter two signs of the onset of true labor are not too dependable. The only dependable signal that labor has now started is the regular uterine contractions felt as a discomfort in the lower abdomen.

Supportive nursing care should help the woman in labor to relax. Tell her not to hold her breath or start to push. Continue emphasis on deep breathing both during and between contractions. Cool sponges, rubbing, or simply firm pressure against the lower back help to relax the patient.

As labor progresses, the uterine contractions occur at shorter intervals, last longer, and become harder in strength. Immediately prior to delivery, the contractions may be 2-3 minutes apart, last 1 - 1 1/2 minutes, and be very strong.

Second Stage of Labor

The second stage of labor is the period from the complete dilation of the cervix through the delivery of the baby. It is also termed the expulsion stage. Signs of onset are: A sudden increase in the show, contractions occurring almost continuously, possibly sudden nausea and vomiting, and the patient begins to bear down without control. She may state she has to move her bowels. This feeling is due to the fetus pressing against the perineum and rectum. Lastly, the perineum bulges and the anal opening dilates. Early in this stage, the nurse will move the patient to the delivery room. Movement should be done between contractions if possible.

Nursing Care in the Delivery Room

After the physician is ready for the delivery, encourage the patient to bear down and push hard during each contraction. Let her rest between contractions. Don't leave her alone.

The specialist will assist with placing the patient in lithotomy position when delivery is imminent. Both legs should be placed simultaneously in the stirrups, with padding. Also, in the delivery room the patient's extremities must be restrained: the legs - so they won't slip; the arms - so the patient doesn't unconsciously reach down and contaminate the sterile field.

At the time of the birth of the baby, note the time of delivery. Care of the newborn is one of specialist's main duties in the delivery room. This care is discussed later in this Study Guide and Workbook.

Third Stage of Labor

Third stage of labor is the time from the delivery of the baby through the delivery of the placenta and membranes. The following nursing care should be provided: Show the mother the baby and then watch and wait for separation of the placenta from the uterus. This usually occurs spontaneously and is controlled by the doctor. Continue to monitor the mother's vital signs during this stage. Even though our definition of labor implied that labor was over once the fetus, placenta, and membranes had been expelled, there is still one more stage of labor - the fourth.

Fourth Stage of Labor

The fourth stage of labor is the first hour after delivery and is a critical stage for the patient because it is a period in which the danger of hemorrhage is very great. Retention of placental fragments or failure of the uterus to contract after delivery may cause hemorrhage. The nursing care necessary during the fourth stage includes observing for hemorrhage by checking vital signs - B/P, pulse, and respirations every 15 minutes and by checking the amount and character of the lochia. The lochia will be dark red and contain bits of tissue. The specialist must count and report the number of perineal pads used and how thoroughly saturated each is. Lochia can saturate 2-4 pads during this one-hour period. Be sure pads are changed frequently.

One method the specialist may use to help the uterus contract is to massage the fundus every 15 minutes with the palm of the hand flat on the abdomen. Drugs may be given by doctor's orders. You may provide comfort by maintaining the patient's own warmth, giving oral fluids, and letting the patient rest as much as possible between taking vital signs and massaging the fundus. An ice pack may be placed on the perineum for episiotomy discomfort and observe urinary output for amount and character of urine, if the patient should void during this period.

QUESTIONS

Match the term in Column A with the correct definition from Column B.

Column A	Column B
1. Postpartum	
2. Episiotomy	a. Incision of perineal area
	b. Time it takes to have body return to prepregnant state.
	c. Newborn
	d. First stool of newborn

Match the term in Column A with the correct definition from Column B.

Column A	Column B
3. First stage of labor.	a. Expulsion of product of conception before viability.
4. Second stage of labor.	b. One hour after delivery.
5. Third stage of labor.	c. Expulsion of placenta.
6. Fourth stage of labor.	d. From contractions to full dilation.
	e. Birth of baby.

Fill in the blanks.

7. The process by which the fetus, placenta, and membranes are expelled from the mother's body is called ______________________.

8. A vaginal discharge of mucus early in labor which may or may not be mixed with blood is called ______________________.

9. What is the difference between false labor and real labor? (Be brief.)

____

____

____

____

10. During labor, the doctor or nurse will do a rectal or vaginal examination of the patient. This is to determine ______________________.

11. Give three reasons why the external genitalia are shaved during labor.

____

____

____

12. Two reasons for giving an enema during labor are:

a. ______________________

____

b. ______________________

____

13. Except during contractions, the B/P of a woman in labor should remain stable. True or False? ______________

14. One method for relieving the discomfort of uterine contractions during labor is to press firmly on the fundus. True or False? ______________

15. Which of the following indicate that the patient is ready to deliver and should be moved to the delivery room? (Circle the letters of the right answers.)

a. Contractions occur almost continuously.
b. Perineum bulges.
c. Patient says she needs to move bowels.
d. Nurse says the cervix is completely dilated.

16. When placing the patient in Lithotomy position, her legs should be put into the stirrups ______________________________.

17. The greatest danger during the fourth stage of labor is ______________________________.

18. One way to help the uterus to contract after delivery is to massage the ______________________________.

19. Referring to the previous question, what part of the hand is used for this massage? ______________________________.

20. Name four OB Clinic procedures performed by the MSS.

   a. ______________________________

   b. ______________________________

   c. ______________________________

   c. ______________________________

21. Name seven danger signals during pregnancy which should be reported immediately.

   a. ______________________________

   b. ______________________________

   c. ______________________________

   d. ______________________________

   e. ______________________________

   f. ______________________________

   g. ______________________________

POSTPARTUM CARE

After having studies prenatal, labor and delivery, we will now turn our attention to a discussion of Postpartum Care. Postpartum refers to the period of time after the delivery of the baby that it takes a woman's body to return to its prepregnant state. This is usually 4 to 6 weeks; however, the major changes occur during the first three days.

Nursing Care Approaches

During this postpartum period, uterine observations are to be made. The level of the fundus is to be checked daily. It starts a little higher than the umbilicus and moves down 1/2 to 1 inch daily. It is measured after the patient empties her bladder, because a full bladder pushes the uterus upward.

The color, odor, and amount of the lochia is also checked frequently. The color of the lochia will normally appear dark red for the first three days, brownish for the next three days, and then almost colorless. An offensive odor indicates an infection. The amount of lochia can be checked easily by keeping a count of the number of pads used daily by the patient. Any abnormality is to be reported.

After Pains

The patient may experience painful contractions of the uterus as it returns to its normal size. This is referred to as after pains, and they are particularly uncomfortable when the baby breast feeds, as breast feeding causes uterine contractions. These after pains last intermittently for about 24 - 48 hours after delivery. Pain medication, as ordered by the physician, may be given for relief.

Perineal Care

Proper care of the perineal area is important to help promote healing and prevent infection, expecially in the care of an episiotomy. Perineal care includes cleansing the vulva, perineum, and anal region with a mild soap or antiseptic solution. This must be done with A.M. care, after each voiding and each bowel movement. Since the patient will be in the hospital for a relatively short time, she should be taught how to do this care. Peripads are also to be changed frequently. The patient's discomfort may be relieved by applying an ice bag to the perineum immediately after delivery to reduce swelling in the episiotomy. Heat may also be applied later by lamp or Sitz Bath.

Breast Difficulties

Having seen how to take care of the perineal area to prevent infection, what about the breasts? How can we prevent breast infection? Breast infection can be prevented by keeping them clean and the nipples soft and free of cracks. Encourage the patient to wash her breasts prior to washing the rest of her body. Engorgement, painful distention of the breasts, may be relieved by firm support of the breasts with a good bra; also by applying heat or cold as ordered by the physician. If the patient is breast feeding, this will also relieve engorgement. Finally, pain medication may be given as ordered by the doctor.

Bladder Difficulties

Urinary retention is a common postpartum problem. The patient should be checked frequently for signs of a full bladder. In the first 24-48 hours after delivery, the postpartum patient produces a tremendous amount of urine and she may well void 500-1000cc at one time. If the patient has difficulty voiding, all possible measures to encourage natural voiding should be used. The patient should be catheterized only as a last resort because infection is more easily caused in an OB patient.

Emotional Difficulties

In addition to these physical difficulties, some emotional problems may arise. A frequent problem following delivery is a feeling of depression, known as "Postpartum Blues." The cause, according to literature, is not known. Some probable causes, however, are attributed to hormonal changes in the patient as well as the new responsibilities that must be faced. Also she is no longer the center of attraction, as she had been for several months. To help the postpartum patient overcome this period, let her talk or cry, if she wants to. The husband should be encouraged to give his support and express his love to her.

General Nursing Procedures

In caring for the postpartum patient, a few basic nursing procedures should be accomplished. The patient should be ambulated early, usually within the first 12 hours. She may take a shower beginning within about 12-24 hours. Vital signs (T.P.R. and B/P) are taken every 4 hours.

QUESTIONS

List one nursing approach pertinent to each of the following postpartum care areas.

1. Fundus

2. Lochia

3. After Pains

4. Perineal Care

5. Breast Engorgement

6. Urinary Retention

7. Postpartum Blues

EMERGENCY DELIVERY PROCEDURES

Childbirth is a natural function, yet to the unknowing it can be one of the most harrowing of all emergency situations. The positive actions of a well trained medical service specialist could well mean the difference between disaster of a happy family situation. During emergency childbirth several points of action are of cardinal importance to the health of both mother and baby. These points should be remembered.

PREPARING FOR DELIVERY

Evaluating the Mother

In order to decide whether or not to transport the mother to the hospital, the MSS must obtain certain information by questioning and examining. The answers to the questions and the results of the examination indicate a clear-cut course of action.

Ask the mother if this is her first baby. Ask her how long she has been in labor. The average time of labor for the mother of a first child is twelve hours, but labor is considerably shorter for subsequent babies. Thus, if the mother says that she is having her first baby and has not been in labor long, there is probably more than sufficient time to transport her to the hospital.

Ask if she has to strain or move her bowels. The mother's indication that she feels she must strain or move her bowels means that the baby has moved from the uterus into the birth canal, a reliable sign that delivery is imminent. This sensation is caused by the baby pressing the wall of the vagina against the rectum.

The MSS must examine the vaginal opening for crowning in order to make a final decision about transportation. This procedure may be embarrassing to both the mother and father, so it is important that the MSS explain fully what he is going to do and why. Every effort should be made to protect the mother from embarrassment during both the examination and delivery.

When he has considered all of these factors, the MSS can make a valid judgment concerning transportation. For example, if the mother is experiencing her first pregnancy, she is not straining, and there is no sign of crowning, there is little reason for not transporting her to the hospital. On the other hand, if this is not her first pregnancy, if she is straining and feels as though she has to move her bowels, and if there is a definite sign of crowning, the MSS should prepare for delivery wherever he is.

Equipment and Supplies

Every emergency should have a sterile emergency delivery pack, sometimes called a "precipation pack." The kit should include the following items: towels or combination of towels and sheets, several pair of sterile gloves, hemostats, 4" x 4" gauze pads, umbilical clamps, bulb syringe, sanitary napkins-peripads, plastic bags, and a baby blanket.

DELIVERY

Preparation

When the MSS has decided not to transfer the mother to a hospital, every effort should be made to make the delivery as easy and uncomplicated as possible. The MSS should prepare the mother, the delivery room, and himself in the following manner:

The mother should be placed on a bed, table, or a stretcher. A sheet should be placed under the mother's buttocks and lower back. The mother should be asked to bend her knees and spread her legs apart to allow clear access to the vaginal opening. The patient's legs should be draped.

Provide a basin in case of vomiting. Because the mother is flat on her back, she is in a position to aspirate vomitus, creating an airway problem. The second MSS should be at the mother's head so he can assist her.

The mother is draped with towels or drape sheets taken from the pack one at a time; one towel on the bed or cot directly under the perineum, one on the abdomen, and one covering each thigh. When draping is done correctly, everything but the vaginal opening should be covered.

The Delivery

The delivery of a baby is a natural function for a woman. The task of the MSS in a normal delivery is merely to help the mother and protect the baby. He must guide, not pull it, out of the vagina. Place one hand just below the vaginal opening with your fingers at the perineum to prevent the baby from contacting the anal area. Using your other hand, support the baby's head as it is delivered so that the birth is not "explosive." Be especially careful to distribute your fingers evenly around the baby's head while supporting it during the delivery. The center of a baby's skull is very soft, a condition which causes it to deliver more easily, but one that makes the skull very susceptible to damage. A finger pressed into the soft area could easily damage the underlying brain.

When the head is delivered, check to see that the umbilical cord is not wrapped around the baby's neck. If it is, carefully loosen it to prevent choking. Take special care not to tear the cord as you free it from around the baby's neck.

Continue to support the head as the body delivers. In a normal delivery, the head is usually born face down. Then as the shoulders pass through the birth canal, the baby turns so that he is facing the mother's thigh. This turning positions the baby's shoulders so that they can pass through the pelvic opening. The upper shoulder usually delivers first, often with some difficulty. To assist in the delivery of the upper shoulder, gently guide the baby's head downwards. Do not use force. If the other shoulder seems to be delivering with difficulty also, help it out by gently guiding the baby's head upwards.

Carefully support the head and shoulders of the baby. The body may deliver quickly, and because it is quite slippery, it may be difficult to hold. When delivery is complete, lay the baby on its side with the head lower than the body to allow blood and mucus to drain out of the mouth and nose while you prepare for the next step.

Caring for the Newborn Baby

Use a sterile gauze sponge to wipe blood and mucus from around the baby's mouth and nose. Then, using the rubber bulb syringe from the "Precip" pack, gently suction the baby's mouth and nostrils.

To avoid damage to the baby's very fragile lungs, use the bulb syringe in the following manner. Before inserting the tip of the syringe into the baby's mouth or nostrils, empty the bulb by holding it between your index and middle fingers and squeezing it with your thumb. Insert the tip in the baby's mouth or nose and slowly release the tip. Empty the syringe into the waste container and repeat the procedure as many times as necessary.

Caring for the Cord

Do not cut the cord -- simply clamp it. Use a cord clamp or two hemostats placed side by side. At this time it should be safe to wrap the baby in an infant blanket and transport the mother and her new baby to the hospital.

Delivery of the Placenta

If the baby and mother are doing well and there are no respiration problems, transportation to the hospital may be delayed up to twenty minutes while awaiting the delivery of the placenta. If the placenta can be delivered at home, there will be less confusion during the trip to the hospital and less discomfort for the mother.

When the placenta is delivered, it should be wrapped in a towel or a plastic bag and transported to the hospital with the mother and baby. The physician will want to examine the placenta for completeness. Any portion of the placenta that is not delivered must be removed by the physician; otherwise the dead tissue remaining in the mother's uterus poses a serious threat to her health. If the plancenta is not delivered within twenty minutes, the mother and baby should be transported to the hospital without further delay.

Care for the Mother

Delivery of the placenta is always accompanied by bleeding. While blood loss usually amounts to about half pint, it may be quite profuse. When bleeding is light, the MSS should merely place a sanitary napkin over the vaginal opening and lower the mother's legs. He should encourage her to hold her legs together during the trip to the hospital to minimize further bleeding.

However, the MSS's care for the mother does not end at this point. He must realize that she has just undergone a tremendous emotional experience, and that small acts of kindness will make her memories of that experience pleasant ones. Replacement of blood-soaked sheets and blankets with clean and dry ones will make the trip to the hospital much more comfortable. Childbirth is a rigorous task, and the mother is physically exhausted at the conclusion of delivery. Wiping her face and hands with a damp washcloth and then drying them with a clean towel will do wonders to refresh her and prepare her for the trip to the hospital. The MSS should also clean up whatever disorder has been created in the house; this action in itself will be of comfort to the average housewife. A good rule for the MSS to follow is that he treat his patient as he would wish a member of his family to be treated.

By applying these principles of emergency delivery, you may change a harrowing situation into a beautiful experience by assisting in the most wonderful event in the universe -- the birth of a baby.

QUESTIONS

1. You arrive at Mrs. Ronald's house and she tells you she doesn't think she can make it to the hospital. How would you determine if you have time to get to the hospital or whether you should deliver the baby at home?

2. You have decided it will be necessary to deliver the baby yourself. How will you prevent an explosive delivery?

3. What steps will you take immediately after the birth of the baby?

   a.

   b.

   c.

   d.

4. What should you do if the placenta is not expelled?

5. When should you cut the cord?

DELIVERY ROOM CARE

This discussion will be devoted to four major areas: first, care of the newborn in the delivery room; second, his care in the nursery; third, the operation of an incubator; and fourth, the operation of an oxygen analyzer.

Appearance and Behavior

The normal newborn baby looks cyanotic until his own circulation is established. He is covered with vernix caseosa (a soft cheesy material) and the skin is wrinkled. He breathes easily, but the rate may be irregular. He keeps his arms and legs flexed close to his body and moves jerkily.

Care in the Delivery Room

There are certain procedures that are carried out in the delivery room. Of primary importance among these is establishing and maintaining an open airway. This is done by wiping the nose and mouth gently, gently suctioning the mouth and nostrils frequently. Suctioning is done by the doctor at birth but the airway may become obstructed later while the doctor is still busy with the mother. In this case, the MSS may be required to carry out these procedures. Some causes of obstruction are: excessive mucus, amniotic fluid, and vomiting due to the baby swallowing amniotic fluid.

Another delivery room procedure for which the MSS is responsible is eye care. Silver nitrate or penicillin must be applied into both eyes. This eye care is required by law in the U.S. to prevent blindness in the infant from gonorrhea. The nurse or MSS applies the solution on to the conjunctival sacs - not directly onto the cornea.

An identification tag with the mother's name and register number is begun before delivery. The completed tags with the infant's sex, date and time of delivery and the doctor's name must be completed and attached before the baby leaves the delivery room. These identification bracelets are made out in triplicate; one tag is secured to the mother's wrist, one to the baby's wrist and one to the baby's ankle. A footprint is also taken.

Throughout the infant's care in the nursery, observations should continue of his respirations, color, and behavior.

Circumcision of male infants may be done at any time, but is usually done immediately after delivery or on the third day. Circumcision may be done as a treatment for phimosis, or as a measure to enhance cleanliness. It is a prescribed ceremony in the Jewish religion. Observe the infant for bleeding and voiding after a circumcision. Leave the dressing (usually sterile vaseline gauze) in place until after the first voiding. Before a circumcision is performed an operative permit must be signed by the parents.

QUESTIONS

1. Eye care must be given to the newborn infant to prevent ______________________.
2. When should the infant identification be completed?
3. The newborn infant will probably lose weight the first few days. True or False?
4. The infant cannot be completely immersed in water until after ______________.
5. The purpose of burping a baby during and after its feedings is to ____________ ______________________________.
6. The infant's cord should be kept clean and ______________________________.
7. It is normal for the infant's first few stools to be greenish-yellow. True or False?
8. Formulas prepared for the newborn are to be treated like____________________.

In an effort to prevent infection, sterile equipment is used in infant care, and sterile aseptic technique is used when handling the infant in the delivery room.

Since the infant has been delivered from a 98 degree environment into a 70 degree environment, we must aid him in maintaining warmth. A warmed crib and sheet wraps are used to keep him warm.

NEWBORN NURSERY CARE

Routine Admission Procedures

Upon arrival of the infant into the nursery, check the identification and label the bassinette or incubator. Next weigh and measure the baby. The average weight is 5 1/2 - 9 1/2 pounds; the average length is 20 - 22 inches. Gently clean off the blood and meconium with clear warm water. Continue to observe the infant for an open airway and adequate respirations.

Daily Care

The newborn infant is weighed daily. When weighing the baby you should take precautions to pad the scale with a diaper and balance the scale. Never leave the infant alone on the scale - keep one hand over the baby at all times. The baby will lose weight the first few days and then begin to gain. He should regain his birth weight in ten days.

The present thinking on bathing the newborn is that the less the skin is handled the better. The vernix should be allowed to disappear of its own accord and the infant is bathed only every other day. Warm water is usually used without soap. The infant should not be completely immersed in water until the cord falls off. Dry the infant well especially between the folds of skin, and cleanse the skin well after each stool.

The newborn infant is usually not fed for 12 to 14 hours after delivery. The first feeding is glucose water, then regular milk feedings. The parents will decide whether the baby is to be breast fed or bottle fed. If the baby is to be bottle fed, treat the bottle like medication - read the label three times before feeding the infant. Burp the baby to get rid of swallowed air. Do this in the middle and again at the end of the feeding. Put the baby over your shoulder or sit him in your lap and pat or rub his back. Protect your shoulder or lap from possible regurgitation. After feeding the infant, place him on his stomach with his head to one side, to prevent aspiration.

The cord should be observed frequently for bleeding, especially during the first 24 hours. Keep the cord area clean and dry since this hastens it separation and prevents infection. No dressing is placed on the cord, moisture only increases the chances of infection.

When in the nursery, the infant is considered clean, not sterile. All equipment and personnel contact should be as clean as possible.

The infant's rectal temperature may be 1 - 2 degrees below normal at birth but should warm up to normal within 8 hours. The temperature is checked upon arrival to the nursery and then at least twice a day.

The first few stools are black and tarry - called meconium. The stool turns to greenish brown, then greenish yellow, and finally yellow. Observe the stool for frequency, color and consistency - it should not be watery. If the newborn infant does not urinate or have a bowel movement within 24 hours of birth, the doctor should be notified.

Department of Nursing
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Study Guide and Workbook 3ABR90230-V-8
July 1975

THE PEDIATRIC PATIENT

OBJECTIVES

4. a. Select terms and basic principles related to the growth and development of children.

   b. Select the basic patient needs and nursing care approaches for the pediatric patient.

INTRODUCTION

A child is not merely a miniature adult -- a child is a unique being. The differences in children "...influence nursing needs, how they are expressed by the patient ano the way in which they should be met." Your understanding of this special patient and your actions may affect the child and his illness by lengthening his hospitalization or by making it a more pleasant experience for him.

This SW will assist you to learn more of the basic and important points necessary for care of the pediatric patient.

INFORMATION

GROWTH AND DEVELOPMENT

Childhood is a period of rapid growth and development. They occur continually although one may periodically dominate the other. This constantly changing situation forms a unified process involving the whole child.

Structure (growth) are as a child grows in size he also matures mentally, socially and emotionally. This growth is as important as the process of physical growth.

Growth and development, although highly individualized, do follow a general pattern. There is pattern to the gradual enlargement of the child (growth) and there is pattern in development as the child progresses from a lower to higher level of function.

There are two major correlated patterns to the child's development. Physical and mental control and coordination occur in a downward and outward direction. The child can control his head movements before he can control his shoulders and arms.

The second major pattern in development is that of general to specific. The child is able to life a toy with both hands before he is able to lift it with the fingers of one hand only.

Growth and development are influenced greatly by heredity and environment. Heredity determines physical characteristics and environment begins its influence even before the child is born.

Many charts have been devised to show the average growth and development a child should achieve by a certain age. The question seems to be determining just what a "normal" or "average" child is. There is no such thing as an "average" child, and only major deviations from these "norms" should be considered as abnormal. Each child will grow and develop at a rate peculiar to him alone.

This supersedes SW 3ABR90230-V-4, Oct 74

NURSING APPROACHES

Any illness or injury can affect the childs' normal growth and development. The longer or more severe the illness, the greater the impact it will have. Nursing care given with goals of reducing the length of illness and preventing complications will reduce the influence of the illness on growth and development.

Observation is the first duty of the Medical Service Specialist. In pediatrics this is even more critical. Many of these patients cannot tell you what they are feeling or where they hurt. Their conditions change more rapidly than adults and they may have difficulty explaining their symptons, if, they can explain them at all.

General Appearance

Vital Sign Measurement

Signs of Pain

Vomiting

Diarrhea

Fever

PSYCHOLOGICAL CONSIDERATIONS

Every child who is hospitalized for any reason will have to make psychological adjustments. He faces a change in his environment. He is separated from the people and objects he is most familiar with and may interpret this separation in many ways. The child's entire routine may be interrupted if this new hospital routine is not flexible and his needs are not considered.

Information

Communication

Misconduct

FLEXABILITY OF ROUTINE

As in all patients there must be consideration for family members. Parents also must make adjustments when their children enter the hospital. There are numerous causes for parental anxiety, among them, concern over the care their child will be or is getting, fear of the unknown, and of course there are usually financial pressures.

The key to relieving this anxiety in parents is involvement. By getting the parents involved in their childs care and allowing them to see what is happening we can alleviate much of the insecurity involved in allowing someone else to take over care of their child. A child should not be completely isolated from his parents simply because he is hospitalized.

Relieving the anxiety that parents may feel will go along way towards making the hospital experience much more enjoyable for their child.

We must take time to consider the fact that there is more of a problem of safety when we are dealing with children. Providing this safe environment involves several points.

Points to Remember

Providing a Safe Environment

NURSING PROCEDURES

There are also several precautions necessary in accomplishing daily nursing care procedures.

Use of Infant Scales

Restraints

Feeding and Serving Meals

STUDY GUIDE AND WORKBOOK 3ABR90230-V-5

DEPARTMENT OF NURSING

MEDICAL SERVICE SPECIALIST

THE PATIENT WITH UROLOGICAL DISORDERS

August 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
SHEPPARD AIR FORCE BASE, TEXAS

Designed For ATC Course Use

DO NOT USE ON THE JOB

Department of Nursing
School of Health Care Sciences,
Sheppard Air Force Base, Texas 76311

SW 3ABR90230-V-5
August 1975

THE PATIENT WITH UROLOGICAL DISORDERS

OBJECTIVES

5a. Select urological terms and principles about the anatomy and physiology of the urological patient.

b. Select the basic patient needs and nursing care approaches for the urological patient.

c. Select basic facts and principles related to urological diagnostic, therapeutic, and special nursing procedures.

INTRODUCTION

A study of the anatomy of the urinary and reproductive systems will enable you to have a better understanding of this patient's problems. Knowledge of the physiology will help clarify some of the common questions asked concerning urological patients.

A study of the nursing care of the urological patients will enable you to face the realities of actual caring for your patients. Your tactful approach to their problems will help alleviate any of their fears and apprehensions. The satisfaction and gratification of knowing that you participated in their care makes working on the urological service extremely rewarding.

INFORMATION

The kidneys and the urinary tract make up the renal system. This organ assembly is mainly responsible for extracting the soluble metabolities from the blood and removing them from the body. Another aspect of its excretory function is the regulation of water content and the electrolyte composition of the body fluids. If the functions of the renal system are interrupted for more than a few days death is the result.

Like other organs of the body, the kidneys are adversely affected by any factor that impedes the flow of blood through its substance. The slightest change in the renal circulation is reflected at once by alterations in the volume and the composition of the urine. Kidney failure is common in patients with arteriosclerotic and hypertensive vascular disease. Renal failure is reflected in the syndrome of uremia as the toxic metabolities are not excreted and excess amounts accumulate in the blood.

Inflections of the kidney are serious because of their local destructiveness, their tendency to become widespread, and the occurrence of damaging complications. Stones and deforming scars that result from an infection may interfere with urinary drainage.

CARE OF THE PATIENT WITH A GENITOURINARY OR GYNECOLOGICAL DISORDER

Principles Of Care Of Patients With Selected Genitourinary Disorders

Supersedes SW 3ABR90230-V-6, May 1975

SELECTED TERMS RELATED TO THE UROLOGICAL PATIENT. Match the following terms with their correct definition.

TERMS	DEFINITIONS
____Genitourinary	a. Blood in the urine
____Anuria	b. Failure of the testes to descend into the scrotum
____Dysuria	c. An agent which increases the secretion of urine
____Hematuria	d. Failure of the kidney to secrete sufficient urine
____Enuresis	e. Removal of all or part of the foreskin
____Nocturia	f. Tightness of the foreskin so that it cannot be drawn over the glans penis
____Diuresis	g. Decreased urinary output
____Oliguria	h. The passing of urine
____Diuretic	i. Involuntary expulsion of small amounts of urine without fully emptying the bladder
____Pyuria	j. A term used to refer to the urinary system of the female and the urinary and reproductive system
____Voiding	k. Abnormal secretion of urine in excess of 5000 cc a day
____Residual urine	l. Toxic condition caused by improper kidney function causing retention of waste products in the blood
____Urine retention with overflow	m. Painful or difficult urination
____Uremia	n. Pus in the urine
____Phimosis	o. Urine remaining in the bladder after voiding. Normally 50-150 cc.
____Circumcision	p. Involuntary discharge of urine from the bladder, complete or partial
____Cryptorchidism	q. Excessive urination

ANATOMICAL STRUCTURES OF THE GENITOURINARY SYSTEM. Explain their physiology.

The kidneys are essential for maintenance of life. The remainder of the urinary system - the ureter, bladder, and urethra serve to transport, store, and discharge urine. The kidneys are paired organs each weighing approximately 125 Gm. They are located on either side of the spine at the level of the last thoracic vertebrae. They are separated from the abdominal cavity and its contents by layers of peritoneum. Each kidney is composed of minute structural units that functionally may be regarded as little kidneys. The kidneys receive one-fourth of the cardiac output per minute or approximately 1200 ml.

Location Of Kidneys

Label The Structures Of Kidneys

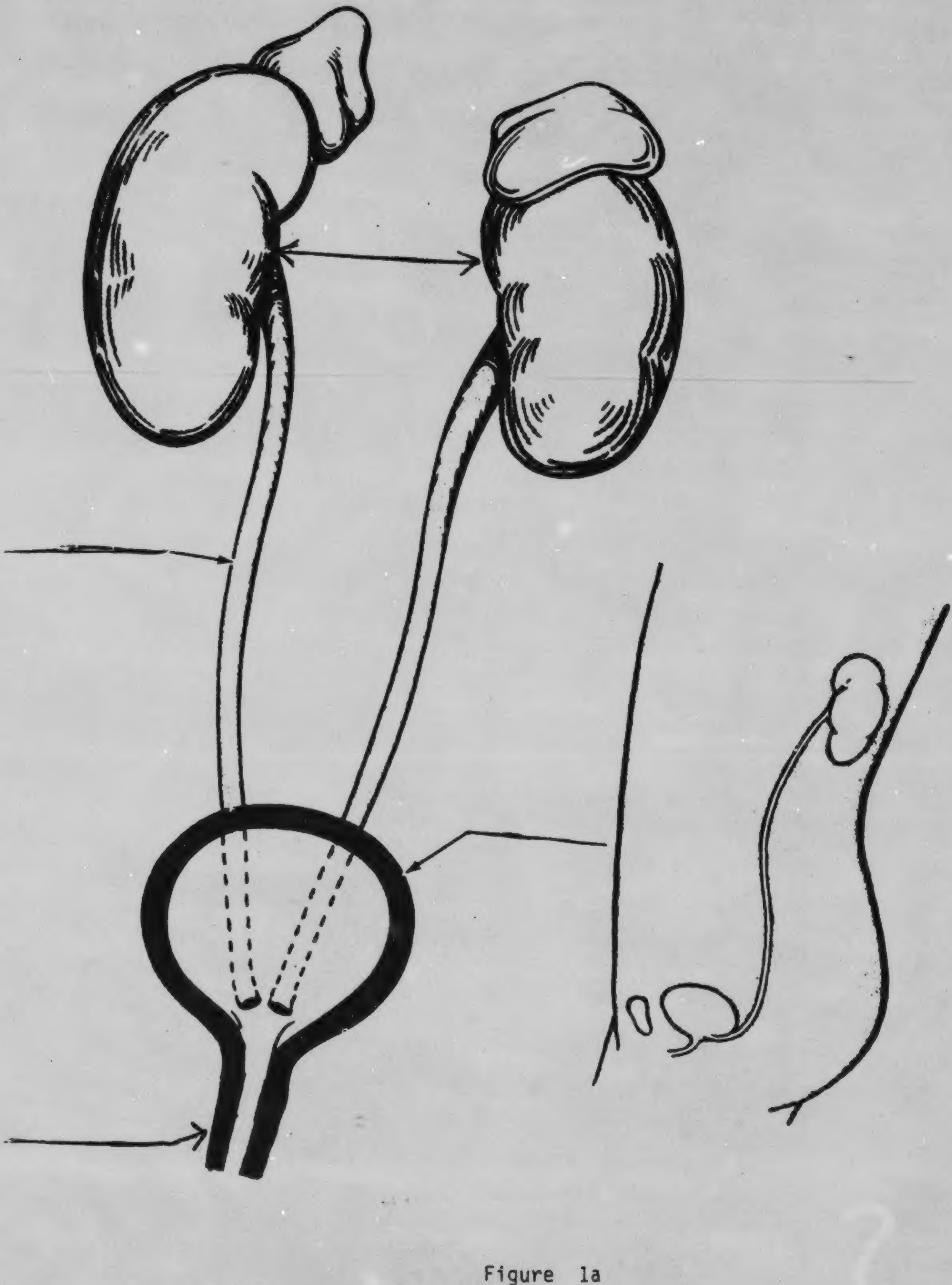

Figure 1a

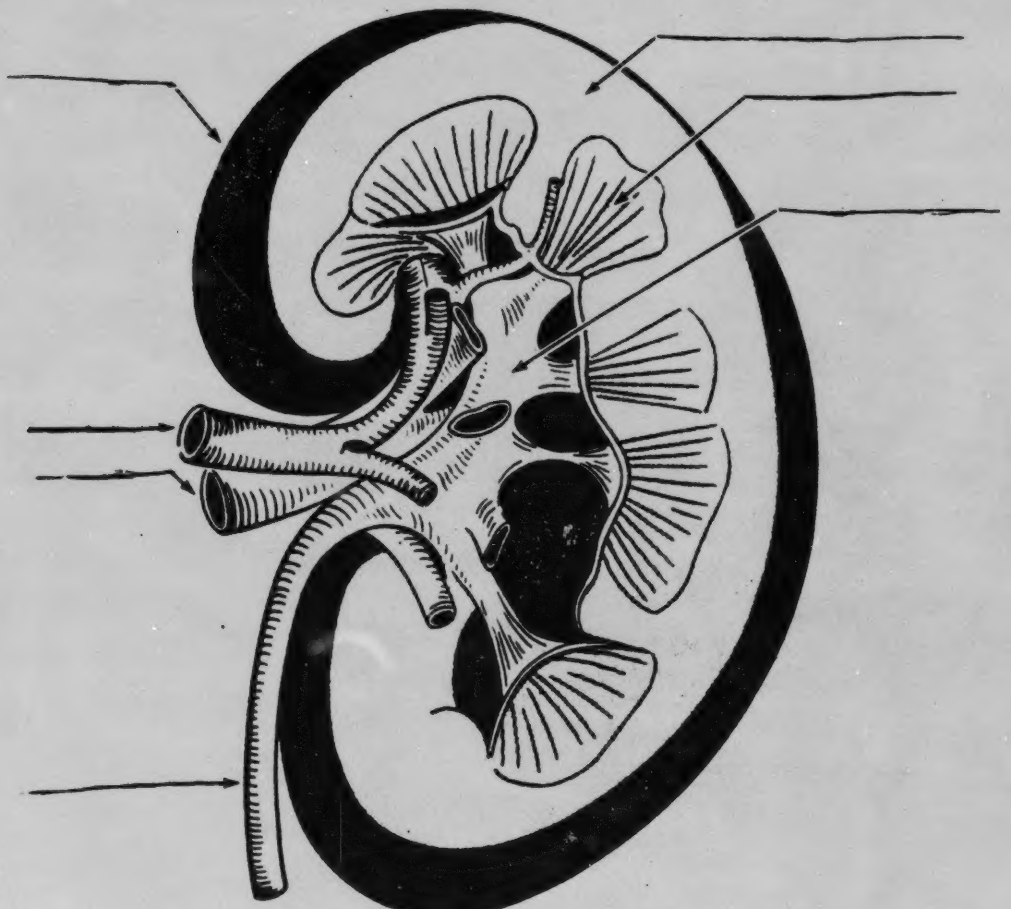

Figure 1b

Unit structure of kidney - nephron. Each nephron is constructed of living cells in the form of a tube or tubule. Each tubule is surrounded with a fine network of capillaries through which blood is constantly flowing. At the upper end this tubule swells into a hollow ball called Bowman's capsule. A knoll of capillaries called the glomerulus pushed into this hollow ball. The glomeruli can be seen by the naked eye only as red dots about the size of a pin prick. The tubule as it leaves the renal corpuscle (composed of the glomerulus and Bowman's capsule) is very kinked and twisted. This is the proximal convoluted tubule. It then makes a long straight loop, the loop of Henie, and then becomes twisted again, the distal convoluted tubule. The distal convoluted tubule opens into a long straight tube, the collecting tubule, which becomes larger and larger as it moves toward the kidney pelvis.

The capillaries of the glomerulus, which branched from one vessel, unite again before leaving Bowman's capsule. This passes down the side of the tubule for a short way and then again branches into many capillaries which surround the tubule.

Ureters

Bladder

Urethra

1. Anatomy

2. Physiology

Elements In The Urine

1. Normal values

2. Abnormal urine

The Male Reproductive System

1. Scrotum

2. Testes (pl.) Testis (s)

3. Epididymis

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4. Vas deferens

5. Seminal vesicles

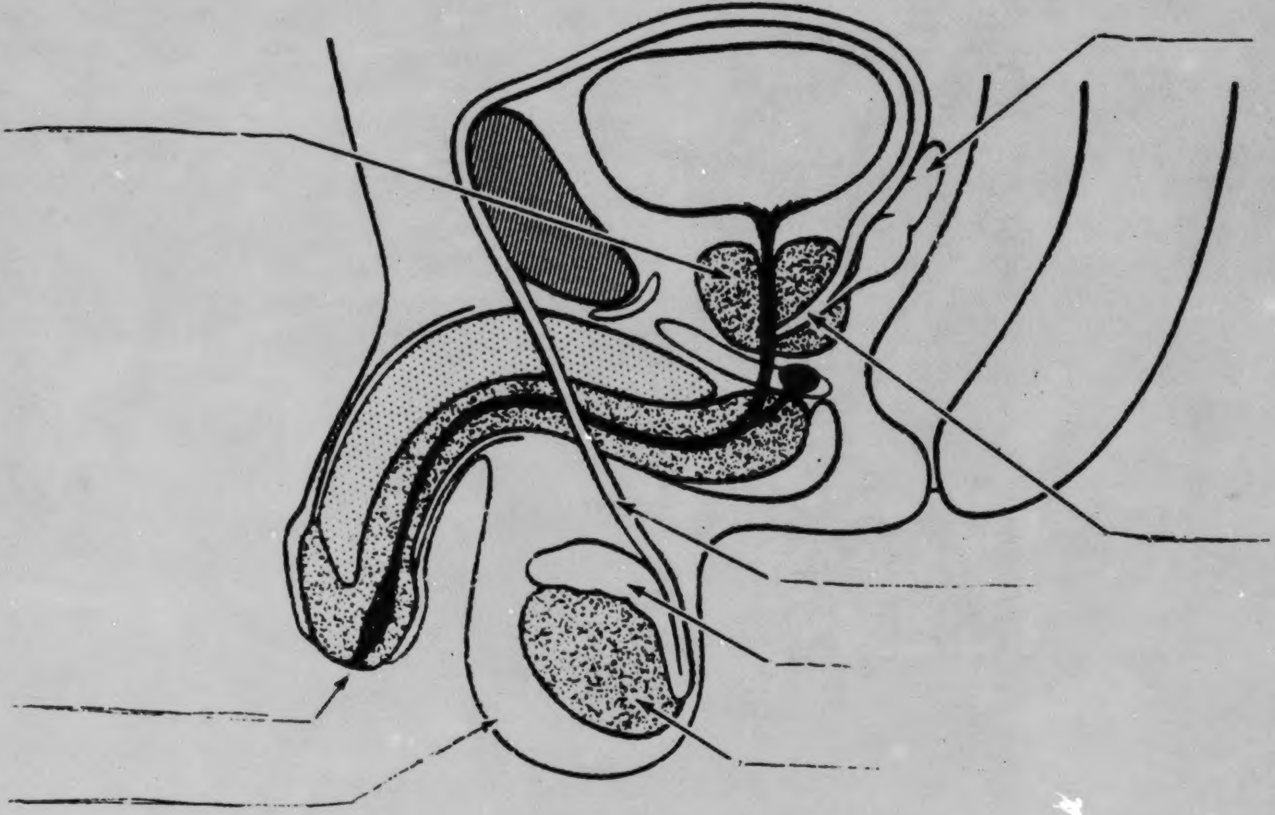
6. Ejaculatory duct

7. Prostate gland

8. Bulborethral glands

9. Penis

Label The Structures Of The Male Reproductive System



Select basic patient needs and nursing care approaches for the urological patient.

EMOTIONAL PROBLEMS. The kidneys are essential in the maintenance of human life, and the possibility of cancer is a common-place fear. In men worry exists over a loss of sexual abilities.

The genitourinary patient can become anxious about his condition. This anxiety, if not handled properly, can cause a patient to become withdrawn and, in the case where a tumor is involved, severe depression with suicidal tendencies may be seen.

These patients also tend to have great difficulty in discussing this problem with specialists of the opposite sex as the areas involved are still considered "unmentionable." Because of this they may seven delay seeking medical attention. They may even develop an aggressive or immodest attitude as a defense mechanism to hide their worry and fear. It is essential that we maintain a high degree of empathy with these patients and allow them every opportunity to talk to us about their problems.

ACUTE RENAL FAILURE

- Causes
  1. Disease
  2. Trauma
  3. Shock
  4. Ingestion of poison
  5. Drug overdose
  6. Mismatched blood

o Nursing Care. Because the kidneys have remarkable powers of recovery, nursing care is aimed at removing the cause of the failure and then supporting the patient with the artificial kidney. This procedure will keep the patient in a close to normal state and decrease actual kidney workload which will allow them to heal quickly.

CHRONIC RENAL FAILURE. Chronic renal failure occurs due to damage of the glomeruli (filters) in the kidney. This damage is irreversible and creates marginal or sub-marginal kidney function. This poor function of the kidneys will make the patient feel "below par" for years and cause complaints of headaches, anorexa, halitosis, diarrhea, nocturia, fatigue, edema in the extremities, blurred vision, pruritis, polydipsia, and dizziness. All of these nagging recurrent problems also force a change in the patient's personality.

- Nursing Care. When caring for this patient we must maintain a normal fluid-electrolyte balance to ease kidney workload and help tissue regeneration. To accomplish this, a low salt, restricted fluid diet along with a very accurate intake and output is ordered. An output above 500 cc per day is essential. Mouth care is given as needed to help remove the sweet, greasy taste that is present. It is also necessary to protect the patient from secondary infections caused by his inability to fight off other diseases. To do this the patient is placed on reverse isolation in a controlled climate to prevent chilling.

INFECTIONS. Infections ascending to the kidney from the urinary meatus are quite common due to the continuous mucous membrane that covers the interior surface of the urethra, bladder, and ureters.

CONDITIONS	DESCRIPTION	SYMPTOMS
Urethritis	Inflammation of Urethra	Pain
Cystitis	Inflammation of Bladder	Frequency
Ureteritis	Inflammation of Ureter	Increased temperature
Pyelitis	Inflammation of Pelvis	Cloudy urine

NURSING CARE. General nursing care for the conditions in this group will include bed rest, intake and output, an increase influid intake, and medication as ordered by the physician. In addition, you should remember to remind female patients that they should wipe from front to back after voiding or defecating, to help prevent another occurrence of cystitis.

Procedures associated with these disorders include cystoscopy, catheterization and various laboratory studies. These will be discussed in a later portion of this workbook.

CONDITIONS	DESCRIPTION	SYMPTOMS
	Inflammation of:	
Nephritis	Nephron of kidney	Hypertension
Pyelonephritis	Pelvis and kidney	Hematuria
Glomerulonephritis	Glomerulus and nephron	Oliguria
		Slight edema
		Headache
		Malaise
		Fever
		GI disturbances

NURSING CARE MANAGEMENT. Since hypertension is a common factor in this group, you will have to closely monitor the blood pressure of these patients. Fluids will be given only as necessary and the patient will be kept on bed rest.

CONDITION	DESCRIPTION	SYMPTOM
Nephrosis	Degeneration of kidney tubules; occurs primarily in young children	Generalized edema Proteinuria Hematuria Oliguria Anorexia Depression

NURSING CARE MANAGEMENT. Nephrosis is a destructive process that goes on in the medulla of the kidney because of a damming up of urine. This in turn causes edema which interferes with the flow of blood to the kidney, stopping the filtering process and leading to uremia. The treatment is centered on maintaining life until the kidneys are repaired and begin to function normally. A low salt diet and cortisone is ordered. The patient's intake and output is strictly monitored and the patient is weighed daily. Edema must be reported immediately.

RENAL STONES. These stones are formed deposits of crystalline substances secreted in the urine. Renal stones vary in size from a grain of sand to a grapefruit and are normally very sharp.

Nursing care will be aimed at relieving pain and observing for the passage of the stone. The patient will be placed on bed rest, if necessary, and fluids will be forced. Urine must be strained in order to tell if the stone has been passed or if there is more than one stone present. Before going home the patient should be taught to continue a high fluid intake and to adhere to any diet restrictions to help prevent further stones. They will also have to have periodic urine exams for the presence of infection or crystalline deposits.

BENIGH PROSTATIC HYPERTROPHY. This disorder is an enlargement of the prostate gland, causing obstruction of urine flow through the urethra. It may cause distruction of kidney function and death.

Surgical removal of the prostate gland (prostatectomy) is usually necessary.

Nursing care prior to surgery will include the insertion of a foley catheter to prevent retention of urine in the bladder. Following surgery, observe the patient closely for signs of shock and/or hemorrhage. A close check must be made on the drainage systems to assure proper functioning. Force fluids so that the patient's intake will reach 3000 cc a day. Maintain an accurate intake and output. Irrigate the bladder as ordered. The patient is advised to avoid heavy work or exercise and to abstain from alcohol for one month after surgery. The patient will require reassurance that he will not lose any sexual potency.

EPIDIDYMITIS. This is the inflammation of the epididymis.

Nursing care for this disorder will include bed rest with elevation of the scrotum to prevent tension on the spermatic cord and the application of local heat.

ORCHITIS. Orchitis is the inflammation of the testes.

Nursing care is the same as in epididymitis, with the exception that cold treatment may be ordered alternately with the heat. Gangrene of the testicle may occur due to edema. A symptom of this complication is the sudden stoppage of pain.

Select Basic Facts And Principles Related To Urological Diagnostic, Therapeutic And Special Nursing Procedures.

DIAGNOSTIC PROCEDURES

- Urinalysis

1. Clean catch specimen
    a. Male patient

    b. Female patient

2. Twenty-four hour collection

- Phenolsulfonphthalein Excretion Test (PSP)

- X-Rays
    1. KUB

    2. IVP (Intravenous pyelogram)

- Cystoscopic Examination

- Renal biopsy

THERAPEUTIC AND SPECIAL PROCEDURES

- Catheterization

1. Definition

2. Purposes

   a. Provide drainage

   b. Clinical evaluation

3. In absence of voluntary voiding

4. During abdominal surgery

5. Procedure (female)

STEPS	REASONS
a. Explain procedure to the patient.	Most patients have a fear that the catheterization will be painful.
b. Assemble equipment you will need.	Make sure you have extra gloves. Assembling all the equipment insures rapid completion in a professional manner.

c.	Provide a modest drape over the top cover, so that one corner is at the patient's chin, one on each side of the patient, and the other corner is between patient's ankles.	Modest draping prevents embarassment for the patient.
d.	Without exposing the patient, fanfold covers to the foot of the bed and remove pajama bottoms.	
e.	Place the patient in the dorsal recumbent position: hands behind the head, knees flexed with feet flat on the bed.	This position keeps the patient from accidentally contaminating the sterile field during the procedure.
f.	Starting with the corner of the sheet farthest away from you, wrap it around the patient's thigh, ankle, and foot; then bring the corner of the sheet around the leg closest to you in the same manner and bring the corner of the sheet that is between the patient's feet up to the abdomen exposing the genital area. If the patient has a heavy discharge, it may be necessary to clean the patient with soap and water to prevent contamination.	
g.	Wash your hands and then open the catheter tray without contamination.	
h.	Place the protector under the patient's buttocks (shiny side down).	The shiny side is plastic. The upper side is absorbant and protects the bed.
i.	Don sterile gloves.	
j.	Pour the antiseptic solution over five cotton balls and lubricate 1½ - 2 inches of the catheter, and place at bottom of the tray.	
k.	Set the tray between the patient's legs.	
l.	Spread the labia with the thumb and middle finger to get a clear exposure of the urinary meatus. Then cleanse the outer labia with one downward motion with one cotton ball, starting with the farthest labia. (Do the same to the near labia.)	
m.	Cleanse the inner labia the same as you did the outer labia.	
n.	Keeping the labia spread apart, use the 5th cotton ball to cleanse the meatus with one downward motion.	If the labia are allowed to close before insertion of the catheter, they must be cleaned again.

o.	Labia must be held wide apart after cleaning until catheter is inserted.	
p.	Inform the patient you are ready to insert the catheter and insert catheter slowly and gently, 1½ - 2 inches. Push the catheter by the sphincter muscle until urine starts to flow.	Failure to tell the patient may cause her to tense up and result in a painful insertion.
q.	Holding the catheter in place, inflate the balloon with 5 cc's of sterile water	
r.	Hang drainage bag on side of bed, secure the tubing to the bottom sheet using a rubber band and safety pin. NOTE: The catheter may be taped to the patient's thigh with a small piece of tape.	This will prevent direct pull on the catheter balloon.
s.	Remove the bed protector and dry the patient well.	
t.	Place the patient's pajama bottoms on, cover the patient with top covers, remove modesty drape, clean the area, remove equipment, and make the patient comfortable.	

5. Procedure (male)

a. Assemble equipment

b. Explain the procedure to the patient.

c. Provide modesty drape as in female patient.

d. Fanfold top linen to the foot of the bed and assist the patient in removing his pajama trousers.

e. Place the patient in a comfortable position:

   1. Dorsal recumbent position with the hands behind the head, knees flexed, feet on the bed.

   2. Supine position with legs spread.

f. Open catheterization tray using S.A.T.

g. Using S.A.T., remove the bed protector from the tray and place shiny side down under the patient's buttocks.

h.	Wash your hands.	
i.	Remove gloves from the catheter tray and discard if not used.* Don sterile gloves using S.A.T.	The plastic gloves in the tray are small (about size 7) and tear easily.
j.	Remove "EYE" sheet without contamination and place over the patient's penis.	The eye sheet provides a sterile field.
k.	Place the catheter pack between patient's legs.	
l.	Remove top tray with antiseptic solution, cotton balls, and lubricant and place near patient's buttocks.	
m.	Remove the syringe from the tray and place it in the bottom box with the drainage bag and catheter.	
n.	Open the antiseptic solution and pour it over all the cotton balls.	
o.	Insure that the catheter and drainage tube are connected and lubricate about two (2) inches of the catheter by inserting catheter into lubricant container, then place lubricated catheter into the box with drainage bag.	
p.	Grasp the patient's penis with three (3) fingers of one hand, then using free hand, cleanse the head of the penis. One circular stroke per cotton ball, starting at the meatus (opening) and working out. (Use Each of five cotton balls one at a time.)	Hold the penis firmly so that it does not drop down and touch the scrotum and become contaminated.
q.	Remove the top tray from between the patient's legs without releasing the patient's penis, and slide the box with the catheter, drainage bag, and syringe closer to the patient's buttocks.	
r.	Pick up the catheter two (2) inches from the tip, then inform the patient that you are about to insert the catheter and insert the catheter while holding the patient's penis at approximately a 60 degree angle.	The 60 degree angle helps to straighten the s curve of the male urethra, easing insertion.

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s. Insert the catheter until you reach the sphincter muscle and, applying continuous gentle pressure, push the catheter by the sphincter muscle until urine starts to flow.

t. Holding catheter in place, inflate the balloon with 5 cc's of sterile water.

u. Hang the drainage bag on the side of the bed; secure the tubing to the bottom sheet, using a rubber band and safety pin. (Tape the catheter to the patient's leg.)

v. Remove the "EYE" sheet and bed protector and dry the patient. Replace the patient's pajama bottoms, cover the patient and clean the area.

6. Indwelling catheter care

- Purpose

- Complications

- Maintain a patent (open) system

- Specimen collection

- Provide reassurance

- Irrigate the indwelling catheter

- Procedure

STEPS	REASONS
a. Open disposable irrigation and place the drainage basin between the patient's legs, and disconnect the catheter from the drainage tubing and place the catheter in the notch provided on the basin.	
b. Place the tip of the drainage tubing into a pack of four by four gauze sponges.	To keep it sterile.
c. Pour the irrigating solution into the container provided. Then withdraw the solution into the asepto syringe.	
d. Attach the asepto syringe to the catheter and inject the solution slowly and gently.	
e. Disconnect the syringe from the catheter before releasing the bulb. DO NOT ALLOW THE BULB SYRINGE TO ASPIRATE THE RETURN FLOW.	Aspiration can cause the bladder to collapse, resulting in shock
f. Continue the irrigation until the return is clear and free of sediment.	If after 200 cc the urine is still cloudy, report to the nurse before further irrigation.
g. Reconnect the catheter and drainage tubing after wiping them with 70 percent alcohol.	
h. Remove the irrigation equipment from the bedside and make the patient comfortable.	

- Changing the drainage equipment

STEPS	REASONS
a. Open the sterile drainage equipment set package.	
b. Cleanse the tip of the catheter and the tip of the drainage tubing with 70 percent alcohol sponge and connect the catheter and tubing.	
c. Place the drainage tubing over the patient's thigh.	
d. Place the collection bag on the lower bed frame.	
e. Keep the "bac-stop" chamber in an upright position.	If the "bac-stop" chamber is angled or in a lateral position, the urine may back flow.
f. Keep the drainage tubing at the height between the patient;s bladder and the collection bag, without any loop.	Loops in the drainage tubing can interfere with proper urine drainage.
g. Observe the urine flow to the collection bag.	
h. Dispose of the old bag and clean up the area.	

QUESTIONS

1. Match the following terms with their definitions.

_____anuria	a.	blood in the urine
_____dysuria	b.	decreased urine output
_____diuresis	c.	involuntary discharge of urine, complete or partial
_____oliguria	d.	failure of the kidney to secrete sufficient urine
_____pyuria	e.	abnormal secretion of urine in excess of 5000cc a day
_____hematuria	f.	pus in the urine
_____enuresis	g.	difficult or painful urination

2. Match the following anatomical structures with their physiology

_____cortex	a. stores sperm
_____medulla	b. urine collector
_____testes	c. produces sperm
_____epididymis	d. secretes alkaline fluid to protect sperm
_____prostate gland	e. houses filtering units of the kidneys

3. List the normal values of urine

Color:

Reaction:

Sp. gr.:

4. What is the cause of chronic renal failure?

5. What is the most important action for the female with cystitis to take post voiding?

Why?

6. List nursing care required for the nephrosis patient.

7. Define benign prostatic hypertrophy and list four (4) nursing care procedures.

8. How is a clean catch specimen obtained?

9. List the purposes of catherization.

10. List five (5) methods to induce voluntary voiding.

11. Why must the labia be kept separated during the catheterization procedure?

12. List the purposes of gravity drainage.

13. What are the complications of gravity drainage?

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STUDY GUIDE AND WORKBOOK 3ABR90230-V-6

DEPARTMENT OF NURSING

MEDICAL SERVICE SPECIALIST

PREPARATION OF PATIENTS FOR AEROMEDICAL EVACUATION

July 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
SHEPPARD AIR FORCE BASE, TEXAS

Designed For ATC Course Use

DO NOT USE ON THE JOB

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

SW 3ABR90230-V-6
July 1975

PREPARATION OF PATIENTS FOR AEROMEDICAL EVACUATION

OBJECTIVES

- Select terms, administrative procedures, and patient classifications related to Aeromedical Evacuation.

- Select the basic patient needs and nursing approaches related to the preparation of patients for Aeromedical Evacuation.

INTRODUCTION

Throughout history, one of the greatest problems of the military has always been the evacuation of sick and wounded. Almost without exception, the victorious armies left thousands to die on the battlefields and along the roads because they could not evacuate them to safety and shelter. Consequently, the "dagger of mercy" was often applied in a crude gesture of mercy to end the suffering of those who otherwise would have been left to die a slow, painful death.

This age-old problem did not diminish with the improvement of transportation. On tne contrary, it often became more acute. While wagons, trains and ships could carry large military expeditions hundreds and thousands of miles to the scenes of battle, the large medical facilities necessary for specialized, intensive care were usually left behind. Those casualties whose lives depended on such specialized care could not survive the long trips back. The greatest tragedy of Napoleon's defeat in Russia, was the thousands who died of sickness and injury because they could not be evacuated to the French medical facilities left behind in Poland. One of the gruesome tragedies of the American Civil War was the great number of casualties, both Union and Confederate, who died on the fields, along the roads, and in the slow-moving horse-drawn ambulances.

The turn of the twentieth century brought a long dreamed of method of transportation - aviation. When World War I made aviation a part of modern warfare, medical authorities from several nations began to think seriously of the airplane as a means of speed evacuation for severely ill or wounded. During World War II and the Korean Conflict, aeromedical evacuation was used so successfully that it became a vital part of our military medical services. The result is the USAF Aeromedical Evacuation System.

Operating out of the Military Airlift Command, the Aeromedical Evacuation System provides a vital life saving, morale building, service to all military personnel and their dependents.

Designed to provide rapid transportation of the sick and wounded during either peacetime or wartime, the system spans the globe and makes the services of the hospitals, overseas or stateside, available to the patients who need their specialized care.

This supersedes SW 3ABR90230-IV-5, January 1975.

Designed and equipped to resemble a nursing ward unit and staffed with especially trained aeromedical crews and flight nurses (and a flight surgeon when one is needed) the aeromedical evacuation aircraft has literally become a "hospital in the sky" - a flying hospital that not only speeds the seriously ill and injured to their destinations but can also provide the necessary care and treatment while they are in flight. In fact, the mission of the aeromedical system is to deliver patients to their respective destination hospitals in as good if not better condition as when taken aboard the aircraft.

As a Medical Service Specialist, you will play an important role in aeromedical evacuation. For you must help prepare patients for flight before they leave your hospital. In order to give them the proper preparation, you must be aware of certain terms, patient classification, the proper procedures for preparation of the litter, clothing of the patient, arrangements for his baggage, his preflight briefing and the necessary preparation for the continuation of specific care during flight.

STUDY ASSIGNMENT:

1. Read this SW prior to class discussion.
2. Complete the Review Questions prior to class discussion. Supplementary exercise is optional.

INFORMATION

DEFINITIONS

Aeromedical Evacuation (AE) is the movement of patients under medical supervision to and between medical treatment facilities by air transportation.

Origination Hospital (OH) is the medical facility from which a patient originally enters the aeromedical evacuation system.

Destination Hospital (DH) is the final hospital to which a patient is sent for definitive care.

Phases of Aeromedical Airlift

Airlift requirements differ considerably in war or peace for different areas of the world. The worldwide system is actually a composite of several phases or subsystems in close interface with one another. These are identified according to geographical and operational factors.

Forward Aeromedical Airlift.

During time of war, forward aeromedical airlift provides transport for patients between points within the battlefield; from the battlefield to the point of initial treatment and to subsequent points of treatment within the combat zone.

Intratheater Aeromedical Airlift.

The intratheater aeromedical airlift phase provides transport for all United States Forces from point to point within an overseas theater of operation. This phase interfaces with both the forward phase and the intertheater phase.

Intertheater Aeromedical Airlift.

Provides airlift for patients from active overseas theaters back to aerial ports in the Continental United States (CONUS). It interfaces with both the intratheater and domestic phases.

Domestic Aeromedical Airlift System.

Provides airlift for patients from point to point within the CONUS and from nearby offshore points in the North Atlantic and Caribbean area.

Other Aeromedical Airlift Organizations.

TACTICAL AEROMEDICAL EVACUATION. Primary mission is to provide airlift support to combat ground forces from forward assault airfields using opportune tactical airlift aircraft. The Tactical Aeromedical Evacuation System is completely mobile and can provide its own control system, resupply element, aeromedical evacuation facility, Aeromedical Evacuation Crews, liaison team and high frequency radio network. This system's mission extends to disasters and other domestic emergencies.

AIR RESERVE FORCES. To meet the requirements that would be generated by a war, the Military Airlift Command and Tactical Airlift Command are augmented with additional medical crews. MAC and TAC are the Air Force Reserves, located throughout the United States.

ORGANIZATION OF DOMESTIC AEROMEDICAL EVACUATION

Headquarters for Aeromedical Airlift is the 375th Aeromedical Airlift Wing at Scott Air Force Base, Illinois.

Aircraft

Nonmedical Crew

Medical Crew

Support Personnel

Detachments.

It is the purpose of the detachments to supply support to wing headquarters. They are located in four geographical areas.

Andrews Air Force Base.

Maxwell Air Force Base.

Kelly Air Force Base.

Buckley ANG Base.

CLASSIFICATION OF PATIENTS

Movement Classification.

To facilitate the movement priorities for patients, three classes are available that allow for the quick efficient movement of patients that doctors believe, because of diagnoses, should be moved with the greatest expedience, dictated by their condition.

URGENT. Immediate move to save a life or limb (includes eyes), or to prevent complications of a serious illness.

PRIORITY. Prompt medical care not availble locally. Picked up within 24 hours and delivered with least possible delay.

ROUTINE. Should be picked up within 72 hours. Moved on routine or scheduled flight.

Patient Classifications.

Patients are also classed for their abilities to take care of themselves during an inflight emergency. Their are two codes, either a code number and letter (standard Aeromedical coding system) or two letters (Military Airlift Command coding). Codes are determined by a physician and will be changed by that physician or another physician only.

CLASS 1. NEUROPSYCHIATRIC PATIENTS.

Class 1A (XA)

Class 1B (XB)

Class 1C (XC)

CLASS 2 LITTER PATIENTS (OTHER THAN PSYCHIATRIC PATIENTS).

Class 2A (XDA)

Class 2B (XDB)

Class 3 (XE). Ambulatory patients (other than psychiatric patients) who require medical treatment, care assistance or observation enroute.

Class 4 (XF). Troop Class. Walking patients (other than psychiatric) who require no medical treatment during flight. They are physically and emotionally able to travel unattended and do not require observation or custodial care.

ADMINISTRATION PROCEDURES RELATED TO AEROMEDICAL EVACUATION

AFR 164-1, Worldwide Aeromedical Evacuation, clarifies which patients shall be selected for evacuation by air under these three categories.

Fitness for travel.

Clinical selection criteria.

Patients requiring special consideration.

The Originating Hospital has many responsibilities for the patients' movement. From the initial notification to the Airlift Medical Command, to insuring that everything necessary to the patients comfort and safety as well as morale, emotional, physical well being are at the highest possible point.

MODIFICATIONS

Pages 6 & 7 of this publication has (have) been deleted in adapting this material for inclusion in the "Trial Implementation of a Model System to Provide Military Curriculum Materials for Use in Vocational and Technical Education." Deleted material involves extensive use of military forms, procedures, systems, etc. and was not considered appropriate for use in vocational and technical education.

Support Activities.

Aircraft equipment is fairly limited; there are oxygen, suction (Continous), and IV capabilities. Hospital responsibilities:

a.

b.

c.

d.

e.

f.

g.

h.

i.

The "Hospital in the Sky" concept.

Patients that fly aeromedical evacuation receive treatment as if they were on the ground, with only a very few exceptions. Emergency treatment can be given, medical records accompany each patient, professional flight nurse and trained aeromedical technicians are on board to care for patients; medications prescribed by the doctor for the flight will be sent to the aircraft.

All comforts are availble as on any commercial aircraft - lavatories, food, water, coffee, juices.

Family members may accompany the patient (NMA) for mental comfort, essential to patient's physical or mental well being.

Baggage can be carried though there is a 66 pound limit; however, up to 100 pounds may be taken with special written orders from the Hospital Commander and coordination with Scott AFB. Stowed baggage is received by the patient at his final destination.

Hand-carried baggage which contains necessary items for scheduled and unscheduled RONs must fit under the seat. Patients should be advised to carry these items, especially if traveling with a child.

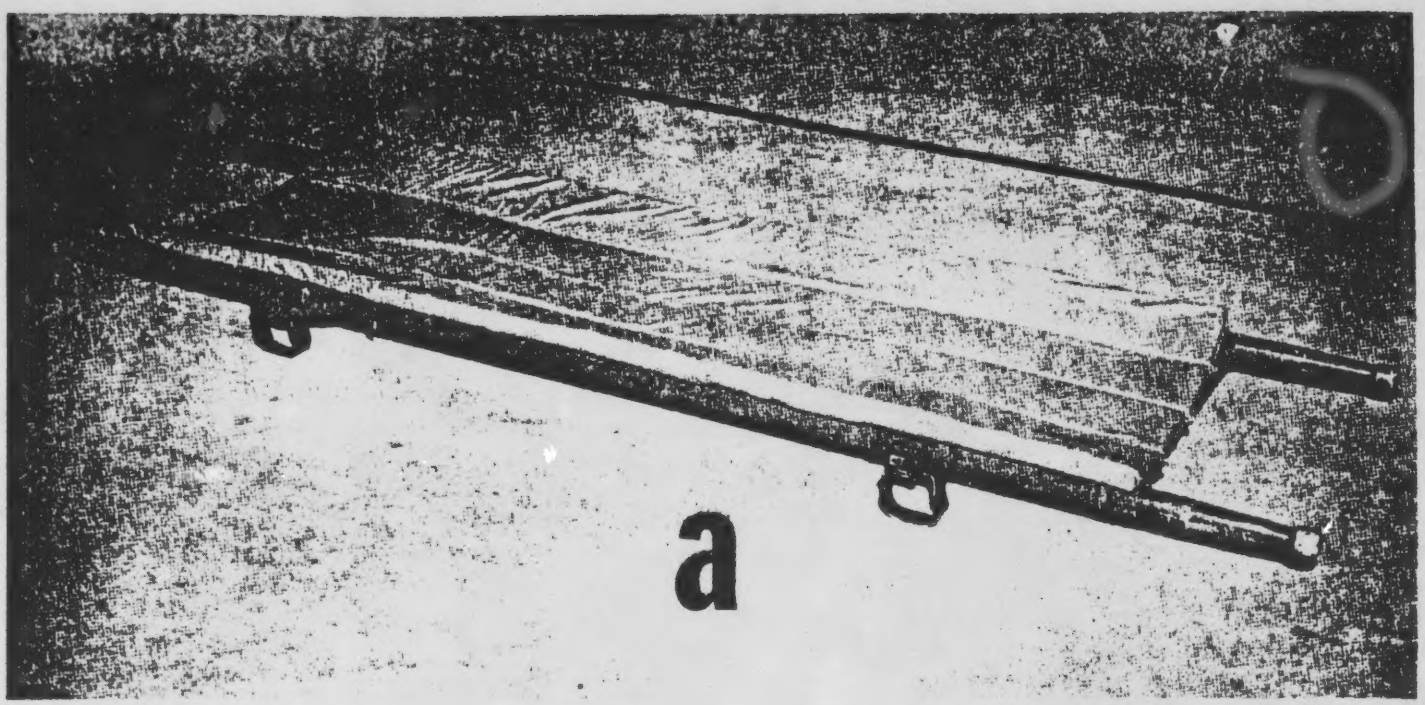
Valuables, defined as negotiable instruments, or cash over $10.00 should be handled by a designated hospital custodian. He will mail it for 1A, 1B and 2A patients, or put it into a military pay order of US Treasury check made out to the patient.

Patient litter requirements. (See Diagrams - Litter Preparation [a - g])

a.

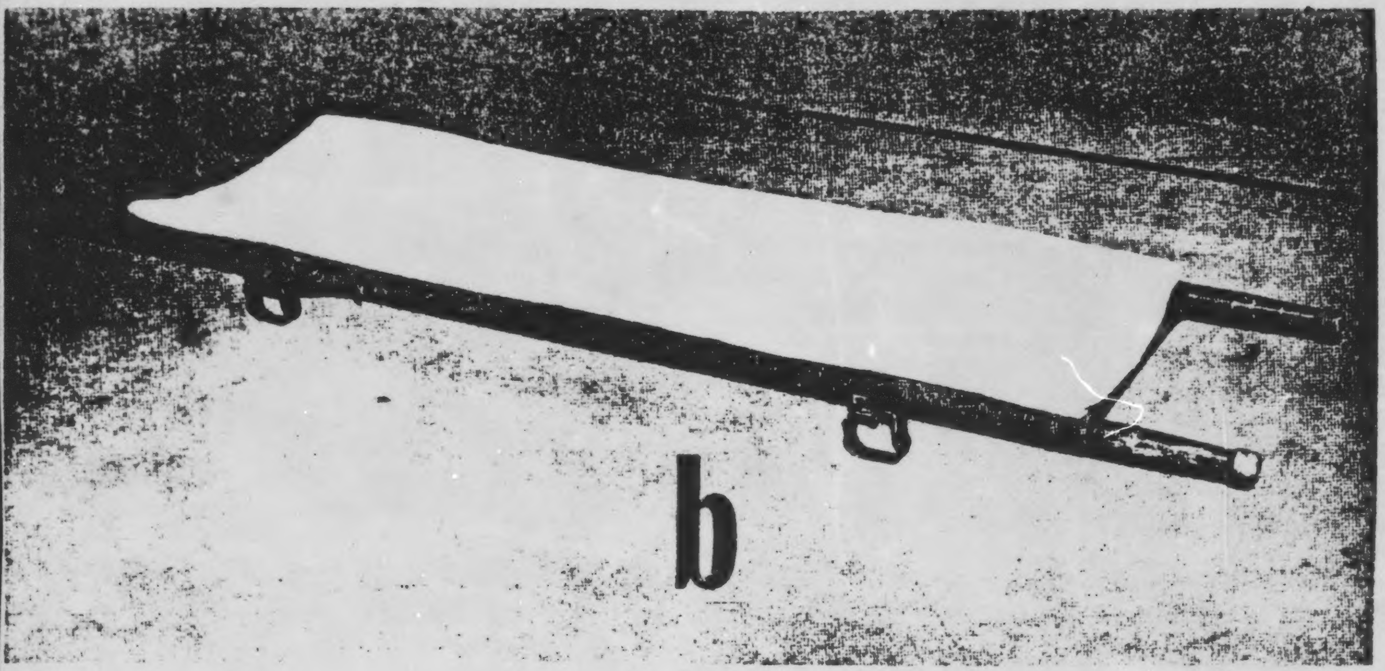
b.

c.



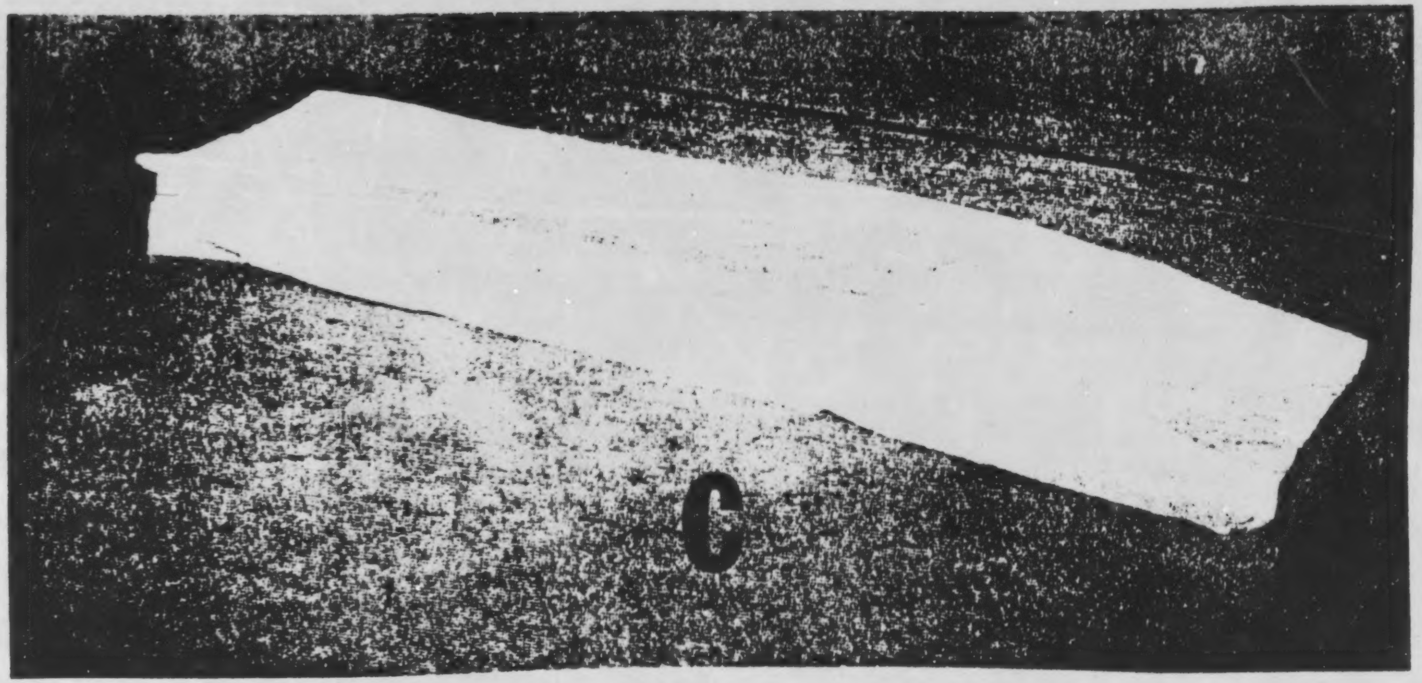
STEP 1: PLACE MATTRESS ON LITTER

42



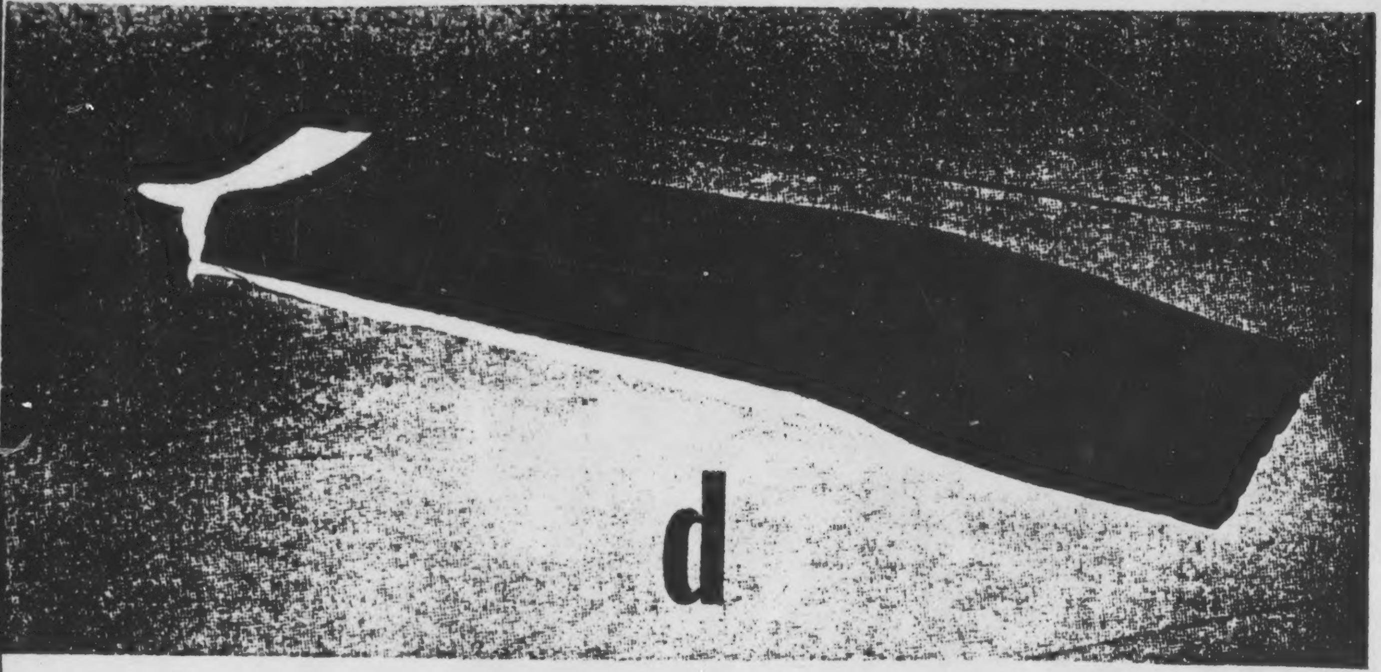
STEP 2: FIRST SHEET: FOLD IN HALF LENGTHWISE, PLACE OVER MATTRESS LEAVING EXCESS HANGING OVER BOTH SIDES AND BOTH ENDS OF MATTRESS, AND TUCK EXCESS UNDER MATTRESS ON BOTH SIDES AND BOTH ENDS.

423



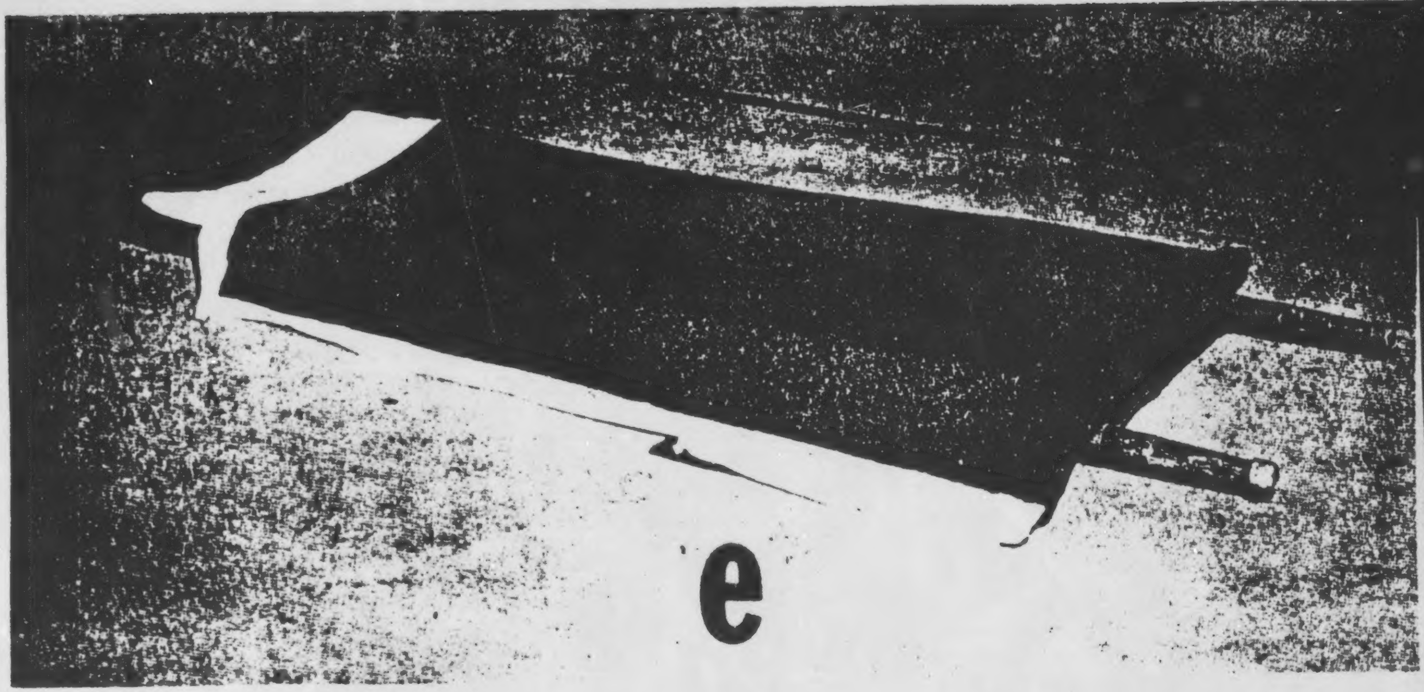
STEP 3: SECOND SHEET: EVEN WITH TOP OF MATTRESS, WITH EXCESS OVER ONE END AND BOTH SIDES. DO NOT TUCK IN EXCESS.

4

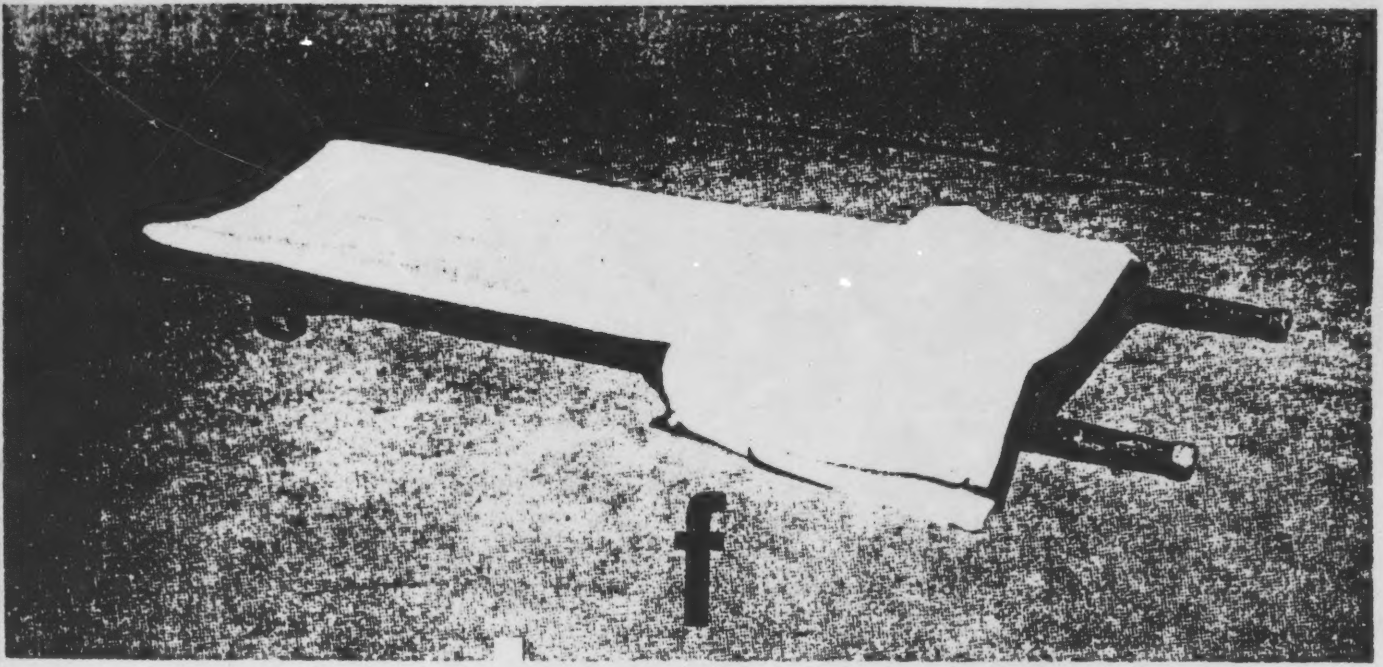


STEP 4: BLANKET: FOLD BLANKET IN HALF LENGTHWISE AND PLACE OVER SECOND SHEET.

4



STEP 5: EXCESS LINEN AT FOOT OF MATTRESS IS TUCKED UNDER MATTRESS.



STEP 6: SECOND SHEET AND BLANKET ARE FOLDED TOWARD FOOT OF LITTER.

g

STEP 7: PLACE PILLOW, FOLDED BLANKET(NOT SHOWN), AND TWO PATIENT-SECURING STRAPS ON LITTER.

Patient Preflight Briefing.

There is a requirement for a mandatory briefing, formal or informal, written or oral, but very concise.

a.

b.

c.

d.

BASIC PATIENT NEEDS AND NURSING APPROACHES FOR AEROMEDICAL EVACUATION

Effects altitude may have on the patient.

Gas expansion.

Limited emergency facilities.

Nursing approaches.

The primary jobs of the Medical Service Specialist in preparing for patient airlift are are:

Observation.

Accurate reporting.

Assisting with the responsibilities of the originating hospital.

Physical preparations.

a.

b.

c.

d.

Psychiatric patients are physically prepared by:

a.

b.

Other considerations for patients physical comfort:

Emotional preparation by the Medical Service Specialist:

1.

2.

3.

4.

Preflight Safety precautions.

1.

2.

3.

4.

QUESTIONS

1. Classify each of the following movement requirements by writing "Urgent," "Priority," or "Routine" in the blanks.

   (   ) An emergency situation in which the patient must be moved immediately to save his life.

   (   ) A patient who must be shipped out on the next aeromedical stop within the next 72 hours.

   (   ) A patient who must be picked up within the next 24 hours and flown to his destination hospital without further delay.

2. Match each classification code in Column A with the correct classification title from Column B.

A - Classification Codes		B - Classification Titles
( )	a. 1A	1. Severe Psychiatric
( )	b. 1B	2. Mobile Litter Other than Psychiatric
( )	c. 1C	3. Ambulatory Psychiatric Patient
( )	d. 2A	4. Psychiatric Patient of Intermediate Severity
( )	e. 2B	5. Troop Class or Walking Patient
( )	f. 3	6. Ambulatory Other Than Psychiatric
( )	g. 4	7. Immobile Litter Other Than Psychiatric

3. Circle the letters of the "air-evac" patients who must be dressed in hospital clothing. (Select four)

   a. 1A
   b. 1B
   c. 1C
   d. 2A
   e. 2B
   f. 3
   g. 4

4. Circle the letters of the "air-evac" patients who will require litters. (Select four)

   a. 1A
   b. 1B
   c. 1C
   d. 2A
   e. 2B
   f. 3
   g. 4

5. When inspecting a litter, you should check for (select three):

   a. deterioration of the canvas.

   b. condition of the poles.

   c. security of the brackets.

   d. weight of the litter.

6. Mrs. Smith says she is afraid to fly because she has recently read of so many plane crashes. To reassure her, you will explain (select two):

   a. The outstanding flying safety record of the Aeromedical Evacuation system.

   b. That she will be given tranquilizers to make her less afraid.

   c. That the news reports do not always give the full story.

   d. The utmost precautions that are taken by crews of the Aeromedical Evacuation system.

   e. The extra regulations for Aeromedical Evacuation aircraft imposed by the FAA.

7. According to the "hospital in the sky" concept, no patient need fear any emergency medical problems during flight because (select one):

   a. The necessary emergency treatment can be given aboard the aircraft.

   b. A record of medical condition will accompany each patient.

   c. Special medications, if required, will be sent along with each patient.

   d. Qualified professional flight nurses and trained aeromedical technicians will be on board to care for patients.

   e. All of the above.

   f. a and b.

   g. a only.

8. The standard amount of baggage a patient may have when traveling by aeromedical evacuation is (select one):

   a. 35 pounds.

   b. 66 pounds.

   c. 100 pounds.

   d. 110 pounds.

9. The valuables of 1A, 1B and 2A patients are received, signed for and forwarded by the (select one):

   a. Ranking members of the AE Team.

   b. Ranking nurse of the originating hospital.

   c. Designated Custodian of Patients' Valuables.

   d. Hospital Registrar.

REFERENCES

1. AFR 164-1, Worldwide Aeromedical Evacuation.

2. AFP 161-3, The Aeromedical Evacuation Technician Guide.

3. Domestic Aeromedical Evacuation System Information Letter. (OPR 37SSG #2 Apr 73).

ATC-SHEPPARD AFB TEX. 74-[illegible]

STUDY GUIDE AND WORKBOOK 3ABR90230-V-7

DEPARTMENT OF NURSING

MEDICAL SERVICE SPECIALIST

ADMINISTRATION OF MEDICATIONS

August 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
SHEPPARD AIR FORCE BASE, TEXAS

Designed For ATC Course Use

DO NOT USE ON THE JOB

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Department of Nursing
School of Health Care Sciences, USAF
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SW 3ABR90230-V-7
August 1975

ADMINISTRATION OF MEDICATIONS

FACTS AND PRINCIPLES RELATED TO PHARMACOLOGY

OBJECTIVES

Select basic facts and principles related to pharmocology.

INTRODUCTION

From your first day of duty as a Medical Service Specialist you will see how medicines are a very important part of patient care. Although the duties of administering these medicines rest primarily with the nurse and doctor, you will be giving some medicines under their supervision. The material presented in this SW and in class is meant to give you a basic understanding of Pharmacology. You can and should build your knowledge of drugs and how they are used so that you can render more competent nursing care.

INFORMATION

BASIC FACTS RELATED TO PHARMACOLOGY

Sources of Information

A wide variety of sources of drug information exist for our development of knowledge about drugs and their effects. Among these is the Physician's Desk Reference, commonly referred to as the P.D.R., which is written in dictionary format and includes information for identification of drugs.

Certain individuals may also be of assistance in obtaining drug information. Included among these are the doctor, nurse, and pharmacist.

The medical library of any medical institution can also be of assistance. And with any drug, be it aspirin or one of the more potent compositions, it is always accompanied by an extensive brochure describing the drug and its particular uses, complications, etc.

Properties of Drugs

ACTION. The action of a drug is the response obtained from its administration. Drugs are given to alter a physiological or psychological process. The collection of drug data which comprises pharmacology includes the anticipated human response to each drug. This data is based on extensive laboratory testing. It is thus that we give two aspirin tablets to an adult to relieve a common headache.

Local Action. When given for local action, a drug is intended to effect an area limited to the site of application. For local action, drugs may be applied to the skin or mucous membranes, or injected under the skin as in local anesthesia. The mucous membranes of the nose, throat, eyes, uninary tract, and vagina may be locally treated by irrigations, instilling drops, or inhalation of drug preparations. They act, primarily, upon one specific area of the body.

Systemic Action. This action from a drug either effects the entire body, or depends on the body system for its result. To obtain systemic effects from a drug, it

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This supersedes SW 3ABR90230-II-2 January 1975 must first be absorbed into the blood and then carried to the tissue or organs upon which it acts. To achieve this result, drugs may be administered by mouth, under the tongue, rectally, or by injection. We know that the antibiotic pencillin has its major effect after absorption into body fluids and is systemic in action because it affects the entire body.

SIDE EFFECT. Any action of a drug other than the desired effect for which the drug was given is called a side effect. Side effects may be beneficial, harmful, or neither. To illustrate: morphine sulfate, given for the relief of pain will also relax tension and aid in inducing sleep, which would be beneficial. It would also probably constrict the pupils of the eyes which would do no harm, or it might cause nausea and vomiting, or decreased respirations which would be undesirable.

TOXIC EFFECT. A poisonous effect, either from an accumulation or an overdose of a drug is classified as a toxic effect.

CUMULATIVE EFFECT. When a drug is excreted slower than it is absorbed, it tends to accumulate in the system, giving rise to toxic symptoms. This is what we classify as a cumulative effect. A cumulative effect may also occur when a subsequent dose of the medicine is given before the effects of the first dose have disappeared.

HABIT FORMING QUALITIES.

Tolerance. Some drugs tend to become less and less efficient the longer they are taken, necessitating an excessive increase of dosage to maintain the particular therapeutic effect. This action is classified as tolerance and with the increasingly large doses the body may react unfavorably. Toxic reactions can occur, or possibly the drug may cease entirely to give the desired results. Some drugs to which tolerance is readily developed are ethyl alcohol and opium derivatives.

Habituation. The term habit forming, or habituation, may be applied to all drugs for which patients may develop a psychic or emotional craving. They are taken with habitual regularity, whether required or not. Although habituation is a psychological dependence, some physical withdrawal symptoms may occur after the drug is stopped but only in rare cases are these effects of a serious nature.

Addiction. A physical need for some particular drug develops after prolonged administration. Addiction is characterized by altered physiologic processes and psychic craving when the drug is withdrawn. The drug has become essential to the maintenance of ordinary cellular activity in the body. Heroin and morphine are two well known examples of addictive drugs which can cause patients to suffer a variety of withdrawal symptoms when the drug is no longer used. Side effects of withdrawal are usually dramatic and severe.

QUESTIONS

1. Name six sources of drug information:

   a.

   b.

   c.

   d.

   e.

   f.

2. The action of a drug is the

3. There are two types of action:

   a. One effects only a particular area. This is termed a ____________________ action.

   b. One effects the entire body or entire system. This is termed a ____________ ____________________ action.

4. An effect other than the desired effect is termed a ____________________ ____________________effect.

5. When excretion is slower than absorption, we classify this as a ______________ ____________________ effect.

6. The body's increasing resistance to a drug is called ____________________. Give an example.

7. Explain the difference between addiction and habituation?

Factors Affecting

IDIOSYNCRASY. In certain people, drugs act in totally unexpected ways. This deviation from the usual response is called an idiosyncrasy. If the patient has had the drug before, he will be able to tell the doctor or the nurse what might happen. In addition to this, you must be alert at all times to note early signs of any abnormal or peculiar reaction to a drug. An example of idiosyncrasy would be hyperactivity or restlessness after a sedative has been given.

ALLERGY OR ALLERGIC REACTION. A hypersensitive reaction or allergic reaction has numerous signs and symptoms. Although it is possible for the patient to react the first time a drug is given, you will often find that he has received the drug previously and became sensitized. Thereafter, even a small amount of that drug can produce an allergic reaction which may vary from slight to very severe. Many times the patient is merely uncomfortable with hives, itching, or a skin rash. He may develop what is described as an anaphylactic reaction where the body systems are seriously effected. Death is then a threat unless immediate action is taken.

Signs and symptoms of anaphylactic reaction occur shortly after the patient receives the drug. They may include swelling of the respiratory passages and wheezing, shortness of breath, and fall in blood pressure as well as the lesser signs mentioned above. If you see these signs and symptoms, summon help at once, such as the doctor or nurse. If you have a tray or a cart set up with emergency drugs and injection equipment, bring this to the patient's bedside. If there is no emergency set up, you should obtain epinephrine 1:1000 in water, and injection equipment so that it is available for the physician - should he feel it necessary. Whether mild or severe, signs of reaction should be reported at once.

OTHER DRUGS BEING TAKEN.

Synergistic action. When two or more drugs are being given to a patient and one intensifies or enhances the effect of another, they are said to be synergistic. This can be very beneficial. For example, during prolonged use of strong pain relievers such as narcotics a relatively harmless drug such as phenergan may be given to strengthen the action of the narcotic and minimize the necessary dose. Some synergistic actions may be very undesirable such as the action of ethyl alcohol and sleeping pills. Both depress the central nervous system. You may recall from news reports that people have dies as the result of taking these two drugs within a short period of time.

Antagonistic action. The action of a depressant and a stimulant given at the same or nearly the same time would be antagonistic because they have the opposite effects. In this example, a stimulant could be given to counter the action of the depressant. This action is the basis for treating many cases of poisoning, using an antidote's antagonistic action to counter the action of the poison. Other drugs may also have antagonistic reactions.

QUESTIONS

1. A totally unexpected action from the administration of a drug would be called

2. One drug strengthening the action of another is called

3. List three signs of mild drug reaction or allergy.

4. List three severe signs of allergic reaction.

5. Giving two drugs with opposite actions would result in what?

Actions and Complications of Selected Types of Drugs

ANALGESICS

Action. Drugs used to relieve pain probably have the widest use of any group of drugs. Pain in varying amounts is an accompaniment of almost all diseases and disorders. Minor aches and pains occur during what appears to be "normal" health. Analgesics relieve pain by raising the patient's pain threshold. Some common examples are aspirin, APCs, and darvon.

Complications. The most common complications of analgesics are habituation, addiction and overdosage. To the patient, pain may be his worst symptom and relief from it his most immediate need. How that relief is obtained is of little importance. Often nursing measures other than drugs can and should be used to relieve pain (repositioning, exercise, etc.).

ANTIBIOTICS

Actions. An antibiotic inhibits the growth of or kills bacteria. Penicillin, the first of the antibiotics, is still the drug of choice in a wide variety of bacterial infectious conditions. You will notice that many drugs which are classified as antibiotics end with the letters i n.

Complications. The complications of using antibiotics are classified in three separate areas.

- Microbial Resistance. Bacteria sometimes develop an ability to resist the action of antibiotics. This occurs because bacteria or microbes can mutate to a more resistant form when they have been exposed to inadequate dosages of an antibiotic. Those bacteria that were exposed to but not killed by an antibiotic will produce highly resistant offspring. If and when these stronger organisms reinfect a person, it will take a larger dose or a more potent antibiotic to achieve the desired bacteriocidal action.

- Toxic Reactions. Local and systemic toxic reactions have been noted. Reactions such as temporary loss of hearing, fever, skin eruptions, nausea and vomiting are not uncommon. These signs and symptoms are usually treated symptomatically with adjustment of dosage or stoppage of the drug.

- Allergic reactions. The most common complication of antibiotic usage ranges from a slight rash to anaphylactic reaction, (previously mentioned).

ANTIDIARRHEAL AGENTS

Action. A state in which there is the evacuation of watery or unformed stools calls for the use of an antidiarrheal agent. These agents may act by decreasing the fluid content of the stool or by decreasing the mobility of the digestive tract or both.

Complications. The complications of using antidiarrheal agents fall into two main categories:

- Constipation due to overdosage.

- Habituation or addiction where such things as opium derivatives are used. Paregoric, a common antidiarrheal agent, is one of these opium derivatives where habituation is common.

ANTIHISTAMINES

Actions. The use of antihistamines is based upon the fact that histamine, a normal body substance, is increased above the normal amount in many allergic conditions. The giving of an antihistamine will block the action of the histamines, which, in turn, will cause a reduction of the symptoms of allergy. Examples of antihistamines are chlor-trimeton, ornade, diametapp, and benadryl.

Complications. The most common and most severe complications of the antihistamines are drowsiness, nausea and vomiting, and loss of coordination. Among these, drowsiness is the most prevalent. Patients should be warned against driving, and operating dangerous equipment when using antihistamines. Flying personnel are usually "grounded" if the use of antihistamines is necessary.

LAXATIVES AND CATHARTICS

Action. These drugs, used to promote defecation, vary in effect from merely softening of the stool to the more radical action of greatly increasing peristalsis. Many of these preparations act by drawing water into the intestine. The milder drugs are laxatives and the stronger ones or large doses are cathartics.

Complications. The best way to maintain regular bowel movements is maintenance of a balanced and good fluid intake. Frequent use of laxatives should be avoided due to their tendency to make the digestive tract less capable of independent action. The system becomes reliant on the "outside help" and withdrawal of the drug will result in constipation.

Excessive usage of these drugs may also result in vitamin deficiency, nausea, decrease in blood pressure, and anemia.

LOCAL ANESTHETICS

Action. Drugs included in this category are those that produce loss of sensation or feeling to a particular area without loss of consciousness. One of the most common is the use of novocaine for dental work.

Complications. The conditions of allergic and toxic reaction are not uncommon with the use of local anesthetics. Some local anesthetics, especially those derived from cocaine, are extremely toxic and the physician uses them with caution.

NARCOTICS

Action. Narcotics relieve pain, produce sleep and often stupor. Some narcotics such as pantopon and codeine depress the cough reflex. Many of the narcotics are refined products of opium such as morphine and codeine. Some snythetic drugs such as demerol (meperidine) are also considered narcotics. Heroin is an opium product which has had little refining and is not a desirable product for therapeutic use. Basically, narcotics depress the central nervous system.

Complications. Overdosage of this class of drug results in unconsciousness, stupor, coma, and possible death. The possibility of habituation and addiction is great with the use of any narcotic. Strict government controls have been established to support their safe therapeutic use under medical supervision.

SEDATIVES

Action. Sedatives, given in proper dosages are meant to calm and quiet a patient. Larger doses of some of the same drug may be used as hypnotics to cause sleep. Examples are chloral hydrate, doriden, and barbiturates such as nembutal, seconal and amytal.

Complications. Common complications are oversedation resulting in drop in blood pressure, weak pulse, cyanotic coloring, subnormal temperature, and death if not properly treated. Toxic and allergic reactions are also not uncommon. Treatment for these problems is symptomatic with either changes in dosage or discontinuation of the treatment.

TRANQUILIZERS

Action. These drugs generally provide a calming and quieting action without clouding of consciousness of mental facilities. They can be used to relieve hypertension, nausea and vomiting, stress, anxiety, fear, and acute agitation. Examples: thorazine, librium, valium, and sparine.

Complications. Danger of habituation is great, especially among those who are suffering from some form of mental illness and are on tranquilizer therapy. Increased dosages may cause excessive decrease in blood pressure, dryness in the mouth, depression and liver damage.

SELECTED FACTS RELATED TO HANDLING CONTROLLED DRUGS

The controlled drugs include ethyl alcohol, barbiturates, narcotics, emphetamines, some mild sedatives or tranquilizers and opium derivative containing substances such as elixir or terpin hydrate with codeine or paragoric. There are two types of control utilized in handling these drugs in hospitals.

A continuous and exact inventory of the amount of each drug on hand is kept on AF Form 579, Ward Alcoholics and Narcotics Register. This form must be kept for each hard narcotic such as morphine, codeine and demerol and for alcoholic preparation which are consumable as a beverage (wine, whiskey, 100% alcohol, etc.). The Form 579 may for purposes of local control be kept on other drugs.

All of the drugs mentioned as controlled drugs must be double locked in the medicine cabinet. A physician must sign all orders sent to the pharmacy to obtain these drugs, whereas non-controlled drugs are often replaced through routine requisition.

Precautions

Only authorized personnel should be allowed access to the keys to the medication cabinet. You will usually not have any reason to go near those drugs which are double locked until a much later point in your training. You should not even accept a set of keys which will unlock the controlled drug section of the cabinet unless you are prepared to take full responsibility of these drugs.

Only one set of keys for the medication cabinet should be in circulation.

Alcohols and narcotics are counted at the beginning and at the end of each shift by the nurse coming on and going off duty.

All the controlled drugs are inventoried once a month by an officer, warrant officer, or top 3 NCO who has no vested interest in the activities of the unit.

If an alcohol or narcotic drug is rendered unusuable due to an accident such as breakage, it may be entered as such on the Form 579 and verified by the person involved plus one additional witness.

QUESTIONS

1. Any drugs used for the main purpose of relieving pain is referred to as an

2. A drug that inhibits the growth of or kills bacteria is referred to as an

3. Antidiarrheal agents act in what two ways?

4. Drowsiness is an important side effect of using

5. Why should laxatives be used no more than absolutely necessary?

6. What does a local anesthetic do?

7. Narcotics are effective in areas of pain relief because they depress the

8. Describe the difference between a sedative and a tranquilizer.

9. Name three general actions of tranquilizers.

10. Name the four types of controlled drugs.

a.

b.

c.

d.

11. Numerous precautions are used in the control of some drugs. Some of these precautions include:

a.

b.

c.

d.

REFERENCES

1. AFM 168-4, Administration of Medical Activities

2. AFM 160-34 Medical Airman's Manual, Page 4-92 - 4-105.

FACTS AND PRINCIPLES RELATED TO IMMUNIZATIONS

OBJECTIVE

Select basic facts and principles related to immunizations.

INTRODUCTION

The purpose of this section is to give you a beginning knowledge of skin testing and of the preventive immunization program carried on in the armed forces. Whether you work on a ward, in a clinic, or are assigned to the Immunization Clinic itself, your goal in learning these facts should be directed towards helping prevent the spread of communicable diseases. Through your knowledge and efforts, life for members of the military and for their dependents can be safer and healthier.

INFORMATION

TYPES OF IMMUNITY

There are several ways of receiving this ability to resist or overcome a specific disease. These different ways can generally be grouped under one of the following:

Active Immunity

Also referred to as acquired immunity, can be developed in one of two ways. The first of these, and certainly the least desirable, is for a person to contract the disease. The advantage to this means of immunity is that the person, in response to the presence of the pathogens, will produce great amounts of antibodies to fight the disease in the future. Once the cells have been stimulated to produce antibodies, they will continue to do so for a long period, sometimes for life. Second: recent advances in medical science have enabled us to acquire this same permanent or long-lasting immunity by injecting a vaccine consisting of the actual pathogen in a killed or weakened state. The vaccine causes a person to produce his own antibodies without getting the disease.

Sometimes immunity is acquired when a person has a very mild case of the disease with the signs and symptoms being unrecognized and undiagnosed.

Passive Immunity

Is of short duration and is received from the antibodies produced by another living being. Infants receive a form of passive immunity when they are breast fed from their mothers. Also during the fetal stage, some antibodies are passed from the mother to the child through the placenta. This is referred to as maternal transfer. For older children or adults, passive immunity can be received by giving them specific antibodies drawn and processed from the serum of animals, fowl, or humans who have had the disease. This "borrowed" immunity is brief and requires periodic "boosters."

QUESTIONS:

To which type of immunity do the following statements apply? Place an "a" before those pertaining to active, and a "p" before those applying to passive.

_____ Has a relatively short duration.

_____ Provides the ability to resist or overcome a specific disease.

_____ Can result from actually having the disease.

_____ Can result from vaccination with the weakened or killed virus.

_____ Is received by "borrowing" antibodies.

DOSAGE FOR IMMUNIZING AGENTS

Since all of these vaccines and serums are biologic, derived from living or once living organisms, the accuracy of the dosage is of extreme importance. The directive which stipulates dosages for immunizations is AFR 161-13. This regulation must be on hand in any facility where immunizations are administered. Copies of this regulation will be available to you for reference in class. Because military personnel and their dependents are transient, this regulation or temporary AF directive supersedes other health organization policies. Refer to this regulation when determining dosage and instructions for giving immunizations.

ADMINISTRATION

See Intradermal Injection in this SW under PARENTERAL MEDICATIONS.

STORAGE AND PRESERVATION OF VACCINES

Because these vaccines and serums are biologic they are very susceptible to deterioration. They require either freezing or refrigeration during transport or storage. Those preparations that require freezing at or below 32 degrees Fahrenheit or 0 degrees Centigrade are yellow fever and oral polio. Once these preparations thaw, they must be used soon or destroyed, never refrozen. All other immunization and skin test preparations must be kept under refrigeration during storage or transport. Labels usually give storage instructions.

IMMUNIZATION INTERVALS

When the full dosage of an immunization is to be divided into two or more injections, how are we to know at what time intervals they are to be given? Information such as this can be found in the AFR 161-13 and it includes these points:

- The basic injection in a series should not be repeated as this first injection usually contains the bulk of the dosage. To illustrate, a patient is to receive a series of three injections to be given at monthly intervals. He forgets his appointment for the second injection and shows up two weeks later. It would be correct to give him his second injection at this time and instruct him to return in one month for the final injection.

- The minimum interval between injections should not be reduced for any reason. This could amount to serious overdosage.

IMMUNIZATION PRECAUTIONS

Sometimes in the nursing field what you don't do is much more important than what you do. These precautions will hold true in any situation regarding immunizations.

- Do not administer vaccines or serums beyond the expiration date attached to the container of medicine. This expiration date is provided by the manufacturer to prevent giving deteriorated vaccines.

- Do not mix any two or more vaccines in the same syringe or container. These agents are meant to be given separately and if mixed together, any number of chemical changes could take place, completely altering the action of both vaccines.

- Do not give the Typhus, Yellow Fever, Influenza, or Measle vaccines to persons who are allergic to eggs of fowl. These preparations are derived from the embryo of chicken eggs. If a person is allergic to chickens or eggs, he will be allergic to those four vaccines.

You may have noted by this time that most of the information given in this lesson could be described as "precautions." You should, therefore, be concentrating on the facts rather than their classification.

REACTIONS TO IMMUNIZATIONS AND THEIR TREATMENT

You have already learned that vaccines have a high incidence of allergic reactions. Therefore, it is essential that we know how to determine if a sensitivity exists, recognize a sensitivity reaction and how to treat it if it occurs.

Determination of Sensitivity

The initial step to find out if a person is allergic to the vaccine you're about to give is to question him. Ask if he has ever had any unusual reaction to the drug before, or in the case of the vaccine derived from eggs, ask him if he is allergic to eggs or fowl. It's not enough to simply ask; for example, "Are you allergic to Gamma Gloubulin?" He may not know that gamma gloubulin is and would therefore, not know if he is allergic to it. Rather, you should ask, "Have you ever developed a rash or severe itching, etc., after an immunization?" If an allergy is suspected we can determine sensitivity by giving the person 0.1cc of the suspected vaccine. This sensitivity skin test is given intradermally in the anterior forearm. The patient is observed for at least 20 minutes and the test is then read. This testing is done after conferring with a physician and only when one is present to evaluate or treat the patient.

Recognition of Sensitivity Reactions

Sensitivity reactions may occur in varying degrees of severity. A minor sensitivity may be recognized as local erythema around the site of injection. In more moderate reaction the patient may experience a generalized rash and urticaria. If the reaction is severe the patient may have dyspnea and the signs and symptoms of anaphylactic reaction. If may seem odd for an anaphylactic reaction to come from only 0.1cc of vaccine but you have probably heard of people going into shock from a bee sting and a bee's sting injects much less than 0.1cc.

Treatment of Reactions

In a severe reaction, follow the procedure for treating anaphylactic reaction. Apply a tourniquet above the injection site, summon help but remain with the patient, obtain Ephinephrine 1:1000 for use by the nurse or doctor. Then provide symptomatic treatment as indicated. In any sensitivity reaction, you should immediately identify the type of substance given as this information will help the doctor to select his course of treatment. Be sure to record all available information in the patient's "shot record" and in his medical record to prevent further reactions from that type of vaccine. Because of the possibility of reactions to vaccines, AFR 161-13 requires that Ephinephrine 1:1000 be on hand anytime vaccines, immunizations or skin tests are being administered. You should note that a doctor or his legal representative must be available wherever immunizations are given.

OVERSEAS REQUIREMENTS

For purposes of further illustrating this point, let us say that you are being sent to Saudi Arabia. How will the specialist or technician in the immunization clinic know what immunizations to give you? He'll look it up in AFR 161-13. In the current edition, he'll refer to page 13, table 3. On the map Saudi Arabia is located in area IIc. He will find that people going to area IIc must have had smallpox and typhoid vaccine within three years, tetanus and diptheria toxoid within six years, influenza vaccine within one year, yellow fever vaccine within ten years and cholera within six months.

Recently in San Antonio, Texas, we experienced a serious epidemic of Diptheria. This epidemic was severe because many of the citizens were poorly prepared. They did not have their diptheria immunizations. However, the huge military community in that area was only slightly effected. This can be attributed to a modern Communicable Disease Control Program effectively using immunizations. Many 90230 Medical Service Specialists contributed to the effectiveness of this program. These people understand the old adage, "An ounce of prevention is worth a pound of cure."

QUESTIONS

1. What are the methods of preservation for the following vaccines? Line out the incorrect method.

   a. Oral polio preparations must be (refrigerated) (frozen).
   b. Typhus preparations must be (below 0 degrees C.) (refrigerated).
   c. Cholera preparations must be (below 0 degrees C.) (refrigerated).
   d. Yellow fever preparations must be (below 32 degrees C.) (below 32 degrees F.).

2. A close friend of yours brings his daughter to your immunization clinic. She is due for two immunizations. Your friend asks you to draw up both shots in the same syringe because his daughter is frightened by needles. What would be your response and why?

3. You are preparing a typhus and a yellow fever immunization for Sgt Lee. You notice the expiration date on the typhus vaccine reads 22 Feb 72. Which of the following would you do before giving the injections?

   a. Obtain another container of typhus vaccine.
   b. Ask Sgt Lee if he is allergic to typhus or yellow fever.
   c. Ask Sgt Lee if he is allergic to eggs.
   d. Return the yellow fever vaccine to the freezer while you get a new vial of typhus.

4. What are two types of immunity?

5. Name two ways each type of immunity is developed.

6. What is the best source of information about the giving of immunization to Air Force personnel?

7. What functioning peice of equipment is required for the storage of vaccines?

8. State two principles related to immunization intervals.

9. Explain the significance of the following:

   a. Expiration date:

   b. Avoidance of mixing vaccines:

   c. Allergy to eggs:

10. What can the specialist do to help determine a patient's sensitivity to immunizing agents?

11. How can you recognize a sensitivity reaction?

12. Name three things which must be available in addition to the actual injection.

REFERENCES

1. AFR 161-13, Immunization Requirements and Procedures.
2. Sutton, Audrey L., Bedside Nursing Techniques, Pages 214, 283-285.
3. AFM 160-34, Medical Airman's Manual, Pages 4-92, 4-97.

ASSISTING WITH INTRAVENOUS ADMINISTRATION OF FLUIDS, DRUGS AND BLOOD (IVs)

OBJECTIVES

1. Select procedures and reportable observations related to blood transfusions.

2. With instructor guidance assist with infusions and recognize reportable symptoms as outlined in SW 3ABR90230-V-7. Sixty-five percent of the items on checklist 3ABR90230-V-7g must be accomplished.

INTRODUCTION

The administration of fluids or drugs directly into a vein is often indicated when a patient can take nothing by mouth. The intravenous (I.V.) method allows the patient to obtain many fluids, electrolytes and nutrients necessary for life. It also has the advantage of rapid absorption which is important in the administration of some medicines.

Many kinds of fluids are available for intravenous therapy. The doctor orders the kind of fluid that the patient needs. For example, a patient may require 5% dextrose in water, normal saline, whole blood or one of its components. Usually I.V. fluids are provided in containers of 250, 500 or 1000cc.

INFORMATION

Initiating a blood transfusion is similar in method to starting any I.V. infusion. However, careful check must be made to be certain that the patient is getting the right blood.

BASIC PRINCIPLES OF INTRAVENOUS (IV) THERAPY

In order to identify your role in assisting with intravenous therapy, it is important that you first consider such things as the various types of IVs; the purposes for giving them and what equipment will be used.

Types

1. IV injection is the term used to describe the introduction of a small amount of fluid or medicine into a vein.

2. IV infusion is the administration of a large amount of fluid or medicine into a vein, usually over a prolonged period of time.

3. IV transfusion is the administration of whole blood or blood components such as packed cells or platelets.

Purposes

Intravenous injection is given when immediate action is desired such as giving 50 percent glucose IV to a person who has taken too much insulin. Diagnostic dyes are also injected for X-ray exams of the kidney or for function tests of the liver.

Intravenous infusion is the most common IV and has numerous purposes such as:

1. To treat dehydration and restore electrolyte balance in the body. For example; if you prespire heavily you are losing sodium chloride and fluid. If the sodium chloride is not replaced by salt pills or salt in your food, the chemical balance of your body is upset and your body's normal fluid content will be down. Nausea is one result, making oral intake often unsatisfactory.

2. To administer medicines slowly in a dilute form. Many antibiotics are most effective when given IV. During severe illness, medicines which raise blood pressure or stimulate healing may be given by this method.

3. To keep a vein open, providing access to the body systems. This might often be the reason for starting an IV before surgery.

4. To provide nutrition for patients who are NPO for extended periods. IVs are a must when a patient is unable to eat and drink enough to maintain adequate nutrition. Much but not all of the normal nutritional needs of a person can be met through the use of IVs.

Intravenous transfusions are given for severe blood loss, damage of the blood cells or inability to produce adequate healthy blood cells. The need for transfusion may arise during extensive surgery or treatment of severe injuries. Patients with blood disorders such as leukemia, anemia or hemophilia may be given blood to offer temporary relief for their lack of important blood elements.

QUESTIONS

1. Name three types of IV therapy.

2. What are four purposes of the IV infusion?

3. List three purposes for transfusions.

c. Equipment
You may be requested to set up a tray of equipment for any of these procedures. General contents of these trays is shown below.

1) Intravenous injection

a) Needle--usually 20-22 gauge and about 1-1/4 inches long. You will have to ask the doctor or nurse about the size needed.

b) Syringe--1 cc to 50 cc size will depend on the amount of medicine being given.

c) Tourniquet--this is used above the injection site to restrict the venous return and to dilate the veins so that they will be easier to locate and puncture.

d) Medication--as ordered by the physician. In some situations you may be asked to draw up the medication into the syringe. If you draw up the medication, leave the vial or ampule on the tray to assure the physician of the drug used.

2) IV infusion

a) Needle or intracath--check regarding appropriate size and item. (2 x 2's or 4 x 4's also needed for intracath).

b) Infusion set--this consists of a disposable set of tubing and drip chamber with connectors for the IV solution and the needle.

c) Tourniquet

d) IV fluids as ordered. Check label closely for correct solution.

e) Antiseptic sponges.

f) Armboard--used to help immobilize a joint which is close to the injection site.

g) Adhesive tape--used to secure needle and tubing to arm.

h) Roller gauze (2-3")--used to secure armboard.

i) Small basin--optional item. Used to catch a small amount of solution lost when clearing air from the tubing--or to place other waste in.

j) IV pole--place at the bedside in readiness for use.

3) IV transfusion

a) Needle or intracath--size 19 gauge or larger often preferred to minimize injury of delicate blood cells as they pass through the needle.

b) Blood recipient set--this set is different from the infusion set in that it has a filter inside the drip chamber. You must use this set when giving blood to assure that no cells have clumped together. A new regular IV set should be used if infusion is to be continued when the blood is finished. This is mainly to cut down the possibility of organisms growing in any bits of residual blood left in or around the transfusion set.

c) Other equipment is the same as for infusion.

QUESTIONS

1. You are preparing a tray of equipment for an IV injection. You have already placed the following indicated items on the tray:

Ampule of medication
5 cc syringe
21 gauge needle
Antiseptic sponges

What is missing?

2. You are preparing the equipment for an IV infusion. You have the following items on a tray at the bedside. What additional item will be needed?

IV fluid as ordered
20 gauge needle
Infusion set
Tourniquet
Adhesive tape
Antiseptic sponges
Armboard
Roller gauge
Small basin

3. In what way is a blood transfusion set different from an IV infusion set?

RESPONSIBILITIES OF THE MEDICAL SERVICE SPECIALIST RELATED TO IV THERAPY

In the previous section we talked about setting up equipment. In addition to that, there are several other things which you must do. Often you are asked to assist with the procedure, apply the armboard and provide the necessary observation during therapy, as well as report and record the progress of the IV.

Assisting with Procedures (Including application of armboards)

- Prepare the patient.

1. Explain the procedure.

2. Remove clothing from the area to be used.

3. Place a bed protector under the arm--desirable but not always available.

- Complete preparation of equipment at the bedside.

1. Cut several adhesive strips--according to the preference of the person starting the IV.

2. Connect the infusion set to the IV bottle. (use SAT) and allow the fluid to fill the tubing up to the needle connector.

3. Place the bottle on the adjusted IV pole.

- Assist with the venipuncture--often the doctor or nurse will do these things but your assistance may be requested to

1. Clean the injection site.

2. Apply the tourniquet--snug but not tight.

3. Release the tourniquet when venipuncture has been made. You should be able to simply pull on one end. This task is best performed by a second person as the person who starts

the IV will need to hold the needle in place until he can secure it with tape.

4. Open up flow of IV fluid and adjust the rate as instructed.

5. Assure the security of the needle. It must be solidly taped down. If an intracath is used, 2 x 2 or 4 x 4 gauze pads will be placed over the injection site.

6. Secure several inches of tubing to the patient's arm--away from the needle site. This is a safety factor to prevent strain on the IV tubing from dislodging the needle.

- Secure the armboard with roller gauze.

1. Armboards are not always needed. If the patient is alert and the IV site is several inches from movable joints, there is no need for a board. If he is not too alert or if the position of the tissue or the needle might change when the patient bends his arm, we use a board. The specialist will often be the one who applies it. The board must be placed in such a way that it will immobilize the necessary joint and surrounding tissues. You will need room to secure the board to the patients arm above and below the injection site. Care must be taken to not exert pressure on the IV needle or tubing with the armboard, or the gauze or tape which attaches it. You must be able to see an area 2 or 3 inches above the injection site as well as the tubing at the point where it connects to the needle. Do not cover these two areas.

2. If adhesive tapes must be used as an alternate method of attaching an armboard be sure that you place gauze or paper tissue under the sticky part of the tape which would touch the patient's arm. Direct skin contact with wide strips of tape in this instance is unnecessary and very uncomfortable for the patient. Check to see that circulation is not impaired in any way by the armboard attachment.

- Removal of an IV (when ordered)

1. Explain what you are going to do.

2. Clamp the tubing.

3. Gently remove adhesive strips. Safety factor: pulling back toward the needle site. (Similar to method used for removing dressing tape.)

4. Hold sterile gauze or alcohol sponge adjacent to the needle site. Safety factor: Do not apply pressure until the needle has been completely removed.

5. Quickly remove the needle in the same line of direction in which it was inserted.

6. Immediately apply pressure over the IV site until no bleeding occurs when pressure is removed. Cover with a bandaid.

7. Report or record the exact amount of fluid taken.

8. Dispose of IV equipment according to local policy and return IV pole and armboard to their storage places.

QUESTIONS

1. In taping down an IV, what do you do to prevent the needle from being dislodged? (Can you think of two things?)

2. You were given several recommendations regarding the use and application of an armboard. You should be able to name five.

3. List two safety practices to use when removing an IV.

Observing the patient during I.V. therapy (including reporting)

- Observe the rate of flow frequently and regulate according to the doctor's order. You will find that IVs run at variable speeds due to changes in needle position or condition, height of the bottle, kinked tubing, or limb movement. It is good practice to use a gauge which consists of paper or adhesive strips calibrated in hourly volume which may be attached to the side of the bottle. With this gauge it is easy to monitor the hourly rate of IV intake. Other modern mechanical gauges built into drip chambers or small machines which clamp over the IV tubing are appearing on the market and may be used at your health facility. You can easily obtain on-the-job instructions regarding the method of IV regulation. ACTION: It will be your responsibility to report a too slow or too rapid rate of flow and see that corrective action is taken. Reasons why the flow rate is of paramount importance include:

1. IVs sometimes contain medicines which must be delivered to the blood stream in carefully controlled amounts.

2. Infants, the elderly or the cardiac patient may easily have their circulatory systems overloaded with fluid.

3. Unwatched IVs run out and the needle clots. Another bottle of fluid cannot be given without restarting the IV. Sometimes there is a backflow of blood into the tubing which frightens the patient.

- Check for infiltration around the site of the IV.

1. Infiltration occurs when the needle is out of the vein--either due to its having been pulled backward or its having been pushed through the wall of the vein. You will recognize this undesirable leaking of fluid into the tissues by the swelling which it creates at the distal end of the needle. If you are not quite sure whether the needle is in the vein or not, momentarily place the IV bottle lower than the IV site. Blood should appear in the tubing next to the needle due to the pressure changes you have created. ACTION: If you discover an infiltrated IV, shut off the flow and report the problem at once. You may be requested to remove the IV but until you know the people you are working with, don't take this action for granted.

- Check for signs of Thrombophlebitis. Thrombophlebitis may occur after one or more days of IV therapy. The vein becomes sore, inflamed and usually a little hard and swollen for several inches. This condition usually indicates that the needle, the intracath or the solution has been unduely irritating to the vein. ACTION: Report your observation to the nurse at once. The doctor or nurse will check the patient, change the IV site and have the area treated.

- Observe for reactions to transfusions. Although the blood unit has been carefully checked against the requisition slip (SF 518) for number, type etc., patients sometimes react to blood during or soon after transfusion. You must be alert for signs of this reaction so that you may report the signs and get some assistance for your patient at once. Things to look for are:

1. Fever or chills. This is the most common sign. Febrile reactions may be due to contaminated equipment, to too old or improperly stored blood or to the body's tendency to reject donor blood after countless transfusions. Signs which may accompany the fever are headache, nausea, vomiting, weakness and back pain.

2. Itching, rash and hives occur when the body has an allergic reaction to some constituent of the blood. This is not due to a matching problem.

3. Severe progressive signs of restlessness, anxiety, tightness in the chest, chills, back pain and shock (rapid pulse and decreasing BP) indicates hemolytic reaction. This is due to mismatching and is very serious. ACTION: Turn off the flow and report your observations and the patient's complaints to the nurse at once. Return to the patient's bedside until the nurse or the doctor comes to check him. Your presence will give some reassurance that something is being done. You should explain that you have asked someone to check him but you should not state what you think is wrong.

Recording

IV's are recorded on two or more forms.

- Doctor's orders--the physician writes the order and the nurse (or in some cases a technician) places a check in the appropriate adjacent square when the IV has been administered.

- Nursing notes--An entry is made on the Nursing Notes to show the time the IV was completed or another bottle was added.

- Intake and output record--Many patients on IV therapy will need I and O records. In such cases, enter the time, the type and the amount of IV fluid when started. Be sure to indicate STARTED on the initial entry. As each bottle is completed, another bottle added and at the end of each shift enter the total amount of each bottle which was absorbed. Total the figures for the shift. Post the amount of an IV LEFT down in the space for the next shift. Blood is usually totalled separately.

- TPR sheet--Total figures for 24 hour I and O are recorded on the TPR sheet.

QUESTIONS

1. Why is controlling the flow rate of an IV important nursing task? (3 reasons)

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2. What is the appropriate action for the specialist to take when he thinks an IV is infiltrating?

3. What should you do when you discover that a patient has a sore, inflamed, ridge-like vein above an IV site?

4. In any suspected transfusion reaction, what three things should you do for the patient?

Which would you do first?

5. What two forms should always show a record of patient's IVs?

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OBTAINING AND GIVING BLOOD TO A PATIENT

Requesting type and crossmatch.

Whenever blood is to be prepared for transfusion, a blood sample must be taken from the recipient. A test called "Type and Crossmatch" is performed to check the patient's blood type and to actually test the compatability of the recipient's blood with the donor's blood. The request form which is used is the SF 518 Blood Transfusion. Two or more copies of this form are prepared for each unit of blood being ordered. All the headings at the top must be filled out and the physician must sign the form. In addition to this many hospitals add a special clause and have the patient or his guardian sign. Should the blood sample be drawn on the ward, you will be asked to carry the sample and the forms to the laboratory. Double check for completeness of the form before leaving the ward. A blood sample is a specimen and all specimens must be carefully labeled.

Obtaining blood from the bloodbank.

The specialist will be asked to pick up a unit of blood from the bloodbank when it is to be given to the patient. Before going to the laboratory, you should be sure that a physician will be available to check the blood and to start it when you return. The reason for this precaution on your part is to prevent deterioration which may occur when blood is outside the specially controlled temperature of the bloodbank storage unit. If you should bring the blood to the ward and find that the physician is not available, you are faced with an awkward situation. Ward refrigerators are not authorized storage places for blood due to sanitary codes for all hospitals. While in the laboratory, you and the lab attendant will check the type and crossmatch information on the SF 518 for agreement with the blood label.

Assisting the transfusion.

The material stated in the previous section on assisting with IVs applies. Strict SAT must be maintained. The blood is never warmed.

You will notice that blood cells tend to settle, leaving plasma at the top of the container. You should gently rotate the blood container from end to end before attaching the unit to the blood recipient set. This may be done during the transfusion also to prevent serious slowing of the drug due to highly concentrated cells surrounding the outlet. Vigorous shaking may damage the cells and should be avoided.

The blood must be checked again by two people on the nursing unit before being given to the patient. One of these people must be a physician. Observe the patient very closely during the first 50 cc of administration and frequently thereafter. The most serious reactions start appearing early. Maintain a constant rate of flow according to medical advice.

QUESTIONS

1. Grouping all types of IV therapy together, name six possible purposes.

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2. When directed to set up the equipment for the administration of 1000 cc 5% Dextrose in water, what items would you need?

3. How should you prepare the patient for IV therapy?

4. What is the purpose of a tourniquet?

5. At what strategic moment should a tourniquet be released?

6. What should you do to prevent strain on the needle of an infusion or transfusion? (Can you name two things?)

7. How do you prevent bleeding when removing an IV needle?

8. What should be used as an aid in monitoring the hourly intake of IV fluids?

9. What do we mean when we say that an IV is infiltrating?

10. What is thrombophlebitis?

11. Why should you immediately take the vital signs of a patient who complained of a chill, nausea or pain during blood transfusion?

12. Which tasks connected with ordering blood for transfusion might be assigned to you?

13. Why should a doctor be present on the ward when you go to the blood bank to get a unit of blood? (2 reasons)

14. What should you do to see that plasma and cells are not separated when preparing to give a whole blood transfusion?

15. Why is an armboard used?

16. Who usually applies the armboard?

REFERENCES

1. AFM 160-34, Medical Airman's Manual, Page 4-97 - 4-104

2. Sutton, Audrey L., Bedside Nursing Techniques, Page 93-97

Safety factors. It is essential that you be aware of these safety factors which are designed to protect the patient and all personnel involved with medicines.

1. Give medicine only with a written order from a physician.

2. Consult the nurse regarding unclear medication orders.

3. Know the drug you are giving. Before you give a drug you should know its composition, action, route of administration, dosage, precautions, contraindications and side effects.

4. Never leave the medicine cabinet unlocked.

5. Avoid using medicine from a container having a damaged and obscured label. The container must be returned to the pharmacy when not clearly labeled.

6. Read the label three times (this recommendation is universal and is applicable whenever drugs and solutions are handled) for each dose of medication prepared, as follows:

   - When removing the container from the cabinet.
   - Before pouring the medicine into the cup.
   - After pouring, before you replace it in the cabinet.

7. Use a calibrated device for measuring liquids.

8. Identify the patient before giving him medicine. The best way of doing this, when you do not know him at all, is to ask him what his name is. If you should ask the patient if he is Sgt Smith, he may not hear correctly or be paying attention and might answer "yes" when he actually is Sgt Tripp. Checking the identification band is also mandatory.

9. Remain with the patient while he takes the medication. Make sure he has sufficient water with which to swallow the medicine.

10. Never return medicine to stock bottles.

11. Observe the "five rights" of giving medicine:

    - Right patient.
    - Right medicine.

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PROCEDURES RELATED TO GIVING MEDICATIONS

OBJECTIVE

Select basic facts and procedures related to giving medications.

INTRODUCTION

The administration of drugs is a therapeutic nursing function which is chiefly dependent upon the doctor's orders. Medications are distributed in a variety of preparations and each type usually requires a special method of administering. Drugs are given only by the route ordered by the doctor and specified on the medicine label.

INFORMATION

BASIC PRINCIPLES FOR THE ADMINISTRATION OF ALL MEDICATIONS.

Factors Influencing The Route Of Administration

ORAL ADMINISTRATION. Oral administration is the most common way to give a medicine. Giving a drug by mouth is the simplest way; it requires no special apparatus, it is painless, and absorption takes place in a natural manner. Drugs will be given in this manner when ordered by the doctor and when the patients condition permits it.

Contraindications for this method include

o nausea, vomiting, and disorders of the gastrointestinal tract which would interfere with proper absorption of the medication.

o drugs which would have their action destroyed by the digestive process

o drugs which would be too irritating to the GI tract

o drugs which must act at once

SUBLINGUAL ADMINISTRATION. A tablet or drop of medication given sublingually, placed under the tongue and held there until it dissolves. It is not swallowed. Reasons you may use this method are:

o The fast absorption rate that may be obtained by placing medication in this area

o Swallowing or injecting not appropriate

o When the effects of gastric juices would destroy the drug

Nitroglycerin, used for relief of sharp chest pain associated with heart disease is given sublingually for all the above reasons.

RECTAL ADMINISTRATION. Medications are given by rectum to evacuate the colon, to locally treat a diseased rectum or colon, or to be absorbed for a systemic effect. For evacuation purposes, drugs are given in enemas. Suppositories or small amounts of fluid to be retained are used for a systemic effect. As you may suspect, the disadvantages of this method include uncertain absorption rate and the chance that the drug may be expelled. This method does offer an alternate route for some drugs during periods of severe nausea and vomiting.

- Right dosage (amount).
- Right method (route of administration).
- Right time (frequency).

Legal aspects. Persons giving medicines are responsible for exercising all the above safety factors. Whether or not you perform this task, there are some legal implications of which you should be aware.

The individual gividual giving a medication to a patient is responsible for the accuracy of that medication and the dosage. This means that if the physician makes a mistake in writing an order and you give what he ordered, you are also liable. Another example would be a situation where another person prepares a tray of medications and you administer them to the patients. You are liable, as well as the person who prepared them.

Although a physician orders a medication, the nurse or the Specialist may not give that medication unless they have been properly trained to do so.

The role of the Specialist is limited by Air Foce documents to assisting with giving drugs, under the supervision of a nurse or a doctor.

The Specialist is liable when he exceeds his limitations, doing what he is not trained or authorized to do.

The government will assume responsibility for the acts of all its personnel when they are performing within the authorized line of duty in a government facility. This willingness of the government to stand behind its employees does not completely eliminate the possibility of a private suit against an individual. To date, there is no incidence in Air Force records where the individual was not protected through this doctrine called respondent superior.

QUESTIONS

1. Name at least three reasons why a medicine would be given by route other than by mouth.

2. Why might you be asked to give a patient an aspirin rectal suppository rather than aspirin by mouth?

3. One of the safety factors stated in the lesson says you must know seven things about a drug before giving it. What are these seven things?

4. How many times do you read the label on a medication bottle? Name them.

5. A slightly smudged label is annoying, as it is hard to read, but need not affect the use of the medication. True or False?

6. Name ten rules for safety in the administration of drugs.

7. What is the proper method for identifying a patient before you administer a medication?

8. Why should someone remain with the patients until they have taken their medication?

9. Who is responsible for accuracy and dosage?

STANDARD ABBREVIATIONS

Abbreviations are a type of medical shorthand intended as a time and space measure for the doctor, nurse and other medical personnel. It is advisable that you study these abbreviations carefully. A thorough knowledge of this information will not only assist you in giving medications but it will increase your understanding of written and oral communication about the patient.

REFERENCES

1. AFM 160-34, Medical Airman's Manual, Pages 4-92 - 4-105.

2. Sutton, Audrey Latshaw, Bedside Nursing Techniques, Second ED., 1969, Chap 6, pg 76 - 80.

MEDICATION EQUIVALENTS AND ABBREVIATIONS

Approximate equivalents

HOUSEHOLD	METRIC	APOTHECARY
1 teaspoon	4-5cc	1 dram
1 tablespoon	15cc	1/2 ounce
2 tablespoon	30cc	1 ounce
	500cc	1 pint
	1000cc (liter)	1 quart
	1cc	16 minims
	1 kilogram	2.2 pounds
	2.54 centimeters	1 inch

Abbreviations

cc	-	cubic centimeter	aa	-	of each
	-	dram	ac	-	before meals
gr	-	grain	ad lib	-	as much as desired
Gm	-	Gram	$\bar{c}$	-	with
Kg	-	Kilogram	gtt	-	a drop
L	-	Liter	h	-	hour
mg	-	Milligram	hs	-	bed time
ml	-	Milliliter	od	-	once daily (every day)
mx M Min	-	minim	om	-	every morning

	-	ounce	cn	-	every night
tsp	-	teaspoon	pc	-	after meals
tbsp	-	tablespoon	po	-	by mouth
			pr	-	by rectum
			prn	-	when required
bid	-	twice a day			
tid	-	three times a day	qd	-	every day
qid	-	four times a day	qod	-	every other day
qh	-	every hour	qs	-	quantity sufficient
q2h	-	every 2 hours	$\bar{s}$	-	without
q3h	-	every 3 hours	$\overline{ss}$	-	without
q4h	-	every 4 hours	sos	-	once if necessary
q5h	-	every 5 hours	BRP	-	bathroom privileges
			STAT	-	immediately

EXERCISE

1. The first letters of certain words or terms are used as abbreviations.

   Example: Hour is abbreviated h.

(1h)

2. There are some abbreviations, however, that do not use the first letters of the words or terms.

   Example: Every hour is abbreviated qh or q1h.

   The abbreviation for every two hours is ________; for every hour it is ________ or __________; and for every day it is __________.

(q2h, qh or q1h, qd)

3. Write the abbreviations for the following:

a. every hour _______________
b. every 3 hours _____________
c. hour _____________________
d. every 5 hours _______________
e. every 4 hours _______________
f. every 2 hours _______________

4. Other abbreviations that use the letter "q" as the first letter of the abbreviated term are every other day, abbreviated qod; and four times a day, abbreviated qid.

Write the abbreviations for the following:

a. ____________ every hour

b. ____________ every 3 hours

c. ____________ four times a day

d. ____________ every other day

(a - qh or q1h; b - q3h; c - qid; d - qod)

5. Match each word or term in Column A with the correct abbreviation in Column B.

A - Words or Terms	B - Abbreviations
_____ a. every day	1. q4h
_____ b. hour	2. qh
_____ c. every 2 hours	3. qid
_____ d. every other day	4. q2h
_____ e. every 3 hours	5. q3h
_____ f. every 5 hours	6. qod
_____ g. four times a day	7. q5h
_____ h. every 4 hours	8. qd
_____ i. every hour	9. h

(a - 8, b - 9, c - 4, d - 6, e - 5, f - 7, g - 3, h - 1, i - 2)

6. Here are four abbreviations that use the letter "p" as the first letter pc - after meals, po - by mouth, pr - by rectum, and prn - when required.

Write the abbreviations for the following:

_____ a. after meals

_____ b. by rectum

_____ c. when required

_____ d. four times a day

_____ e. every other day

_____ f. by mouth

(a - pc, b - pr, c - prn, d - qid, e - qod, f - po)

The abbreviation for half is $\overline{ss}$.

Select the abbreviation for the term half from the abbreviations below. (Circle the letter of your answer)

a - pr

b - $\overline{s}$

c - pc

d - po

e - $\overline{ss}$

f - prn

(e - $\overline{ss}$)

8. Write the abbreviations for the following.

_____ a. four times a day

_____ b. every other day

_____ c. by mouth

_____ d. by rectum

_____ e. when required

_____ f. after meals

_____ g. half

(a - qid, b - qod, c - po, d - pr, e - prn, f - pc, g - $\overline{ss}$)

9. The abbreviation for without is $\bar{s}$.

Write the abbreviation for without. _______________

($\bar{s}$)

10. Write the abbreviations for the following.

_____ a. after meals

_____ b. when required

_____ c. by rectum

_____ d. by mouth

_____ e. without

_____ f. half

(a - pc, b - prn, c - pr, d - po, e - $\bar{s}$, f - $\overline{ss}$)

Now complete the following test. If you miss one or more repeat steps 1-11.

11. Match each word or term in Column A with the correct abbreviation in Column B.

A - Word or Term	B - Abbreviation
_____ a. hour	1. pr
_____ b. every hour	2. qod
_____ c. every day	3. po
_____ d. without	4. $\overline{ss}$
_____ e. half	5. prn
_____ f. by mouth	6. pc
_____ g. after meals	7. q2h
_____ h. by rectum	8. qid
_____ i. when required	9. $\bar{s}$
_____ j. every 2 hours	10. q3h
_____ k. every 3 hours	11. q4h
_____ l. every 4 hours	12. q5h
_____ m. every 5 hours	13. qh

_____ n. four times a day 14. qd

_____ o. every other day 15. h

(Answers to test)

a - 15

b - 13

c - 14

d - 9

e - 4

f - 3

g - 6

h - 1

i - 5

j - 7

k - 10

l - 11

m - 12

n - 8

o - 2

12. There are three abbreviations that begin with the letter "t". They are: teaspoon, abbreviated tsp; three times a day, abbreviated tid; and tablespoon, abbreviated tbsp. Write the abbreviations for the following.

_____ a. teaspoon _______ c. three times a day _____ e. every other day

_____ b. tablespoon _______ d. four times a day _____ f. every day

(a - tsp, b - tbsp, c - tid, d - qid, e - qod, f - qd)

13. The abbreviation for twice a day is bid.

14. Bid is the abbreviation for ________________________________.

(twice a day)

15. Match each abbreviation in Column A with the correct word or term from Column B.

	A - Abbreviations	B - Words or terms
____________________	a. tbsp	1. without
____________________	b. tsp	2. every day
____________________	c. bid	3. four times a day
____________________	d. tid	4. teaspoon
____________________	e. $\bar{s}$	5. half
____________________	f. $\overline{ss}$	6. tablespoon
____________________	g. qid	7. twice a day
____________________	h. qd	8. three times a day

(a - 6, b - 4, c - 7, d - 8, e - 1, f - 5, g - 3, h - 2)

16. The abbreviation for with is $\bar{c}$. From the abbreviations below, select the abbreviation for with. (Circle the letter of your answer)

a. $\overline{ss}$ b. $\bar{s}$ c. $\bar{c}$

($\bar{c}$)

17. Write the abbreviation for each of the following.

a. teaspoon ____________
b. tablespoon __________
c. without _____________
d. with ________________
e. half ____________________
f. hour ____________________
g. every day _______________
h. every other day_________
i. twice a day _____________
j. three times a day ________
k. four times a day _________
l. every 5 hours ____________

(a - tsp, b - tbsp, c - $\overline{s}$, d - $\overline{c}$, e - $\overline{ss}$, f - h, g - qd, h - qod, i - bid, j - tid, k - qid, l - q5h)

18. These two abbreviations use the letter "a"; of each, abbreviated aa; and before meals, abbreviated ac.

Match each term in Column A with the correct abbreviation from Column B.

A - Terms	B - Abbreviations
_____ a. with	1. qid
_____ b. without	2. tid
_____ c. of each	3. ac
_____ d. before meals	4. $\overline{c}$
_____ e. twice a day	5. $\overline{ss}$
_____ f. three times a day	6. bid
_____ g. four times a day	7. aa
_____ h. half	8. $\overline{s}$

(a - 4, b - 8, c - 7, d - 3, e - 6, f - 2, g - 1, h - 5)

19. The abbreviation for a drop is gtt. The abbreviation for bedtime is hs. Select the abbreviations for a drop and bedtime from the list below.

a.
b. aa
c. gtt
d. ac
e. hs

(c-gtt, a drop; e - hs, bedtime)

20. Abbreviate the following.

a. a drop ______________________
b. bedtime _____________________
c. of each ______________________
d. before meals _________________

(a - gtt, b - hs, c - aa, d - ac)

21. The abbreviation symbol for ounce is . The number of ounces follows the abbreviated symbol and is written in Roman Numerals.

Example: 2 ounces is abbreviated II.

Write the abbreviation for 3 ounces. ______________________
(III)

22. Immediately is abbreviated STAT. NOTE: all letters in the abbreviation are capitalized.

Match each of the following abbreviations with their correct term.

______ a.		1. immediately
______ b.	STAT	2. ounce
______ c.	hs	3. a drop
______ d.	gtt	4. bedtime

(2 - 2, 1 - b, 4 - c, 3 - d)

23. Now complete the first part of the following self test. If you miss more than two, review the ones you missed.

Match each word or term in Column A with the correct abbreviation from Column B.

FIRST PART OF SELF TEST

A - Words or Terms	B - Abbreviations
____ a. ounce	1. aa
____ b. drop	2. qid
____ c. bedtime	3. tid
____ d. of each	4. STAT
____ e. before meals	5. tsp
____ f. immediately	6. tbsp
____ g. teaspoon	7. bid
____ h. tablespoon	8. h
____ i. twice a day	9. hs
____ j. hour	10. gtt
____ k. three times a day	11. ℥
____ l. four times a day	12. ac

Answers to first part of Self Test (a through l).

a - 11	c - 9	e - 12	g - 5	i - 7	k - 3
b - 10	d - 1	f - 4	h - 6	j - 8	l - 2

After reviewing the areas you missed continue to the second part of the Self Test. If you miss more than two in the second part, review the ones you missed.

SECOND PART OF SELF TEST

A - Words or Terms	B - Abbreviations
________ m. every day	13. qh
________ n. every hour	14. $\overline{ss}$
________ o. every 2 hours	15. $\bar{c}$
________ p. every 4 hours	16. q3h
________ q. every 5 hours	17. pc
________ r. half	18. q4h
________ s. without	19. po
________ t. after meals	20. qd
________ u. by mouth	21. prn
________ v. by rectum	22. q2h
________ w. when required	23. q5h
________ x. with	24. pr
________ y. every 3 hours	25. $\bar{s}$

Answers to second part of Self Test (m through y).

m - 20
n - 13
o - 22
p - 18
q - 23
r - 14
s - 25
t - 17
u - 19
v - 24
w - 21
x - 15
y - 16

PREPARATION AND ADMINISTRATION OF ORAL, SUBLINGUAL, AND RECTAL MEDICATIONS.

The physician will write the order on the doctor's orders, including the name of the drug, the dosage, frequency to be given, and the method of administration. The patient's name will already appear on the form. The medication order should be transferred to AF Form 1405, the Medicine Card. Include the patient's name, room and/or bed number, medicine and dosage, method of administration, the frequency and the specific times to be given as well as any special instruction.

The medicine card is kept in a card holder or rack according to the time it should next be given. Medicines are secured in a medicine cabinet.

MEDICINE CARD

NAME [illegible]	
ROOM [illegible]	BED [illegible]
DRUG AND DOSE [illegible]	
TIME TO BE GIVEN [illegible]	

The medicine room should be quiet room with good lighting and a minimum of distractions. This creates a good atmosphere in which to concentrate on accuracy.

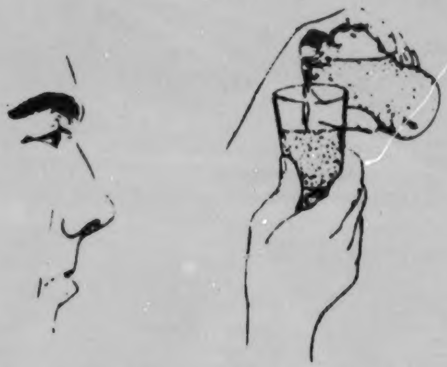
After medicines have been given, they are checked off on the Doctor's Orders. If the drug was a prn order or a one time dose of something, it should also be entered on the Nursing Notes, along with the reason for giving it.

You will have a guided laboratory practice which will include a demonstration and an opportunity to prepare and administer a medication in a simulated situation.

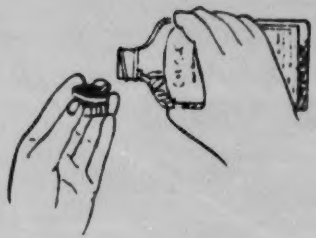
You will notice that the following equipment should be kept available in the medicine room.

Medicine cart or tray
Medicine cups - plain and calibrated
Pitcher of fresh water
Medicine dropper
Drinking straws
Tongue blades for stirring
Paper wipes to wipe the side of a bottle of liquid

Study the picture below. They show liquids and tablets are poured.



POURING LIQUIDS



POURING TABLETS

Giving An Oral Medication

1. Check the medicine card against the Doctor's Order. They should read the same.

2. Wash your hands.

3. Unlock the medicine cabinet, select the correct bottle by reading the label (1st label reading).

4. Check the label against the medicine card.

5. Remove the cap and lay it down inside up. (You will not need the cap for liquids.)

6. Read the label again before pouring the medicine (2nd label reading).

7. Pour the medicine without touching it directly.

    a. Pour tablets into the lid and transfer them to the medicine cup.

    b. Hold the medicine cup at eye level, cover the label on the bottle with the palm of your hand and pour to the level you are working with your thumb for liquids.

8. Read the label again after pouring the medicine (3rd label reading).

9. Replace the cap.

10. Wipe the neck of the liquid container.

11. Put the medicine with the card on the medicine cart.

12. Lock the medicine cabinet and secure the keys.

13. Take the medicine cart to the patient. (Do not leave it unattended.)

14. Identify the patient - "What is your name?" Check his ID Bracelet.

15. Explain to the patient what you want him to do. (Report to the nurse if the patient refuses.)

16. Observe or assist the patient while he takes the medication.

17. Return the cart to the medicine room.

18. Clean the cart and discard the trash.

19. Record the information on Nursing Notes or Doctor's Orders as indicated.

20. Place the cards in the medicine card holder according to the next time due.

Giving a Sublingual Medication

1. Preparation - same as for oral medications. Follow steps 1 - 14 on practice checklist.

2. Explain to the patient that he should retain the pill under his tongue until it is dissolved and absorbed.

3. Do not offer water or allow the patient to drink for 30 minutes.

Steps 17 - 20 are also the same as for oral meds.

Giving a Rectal Medication

INSTILLATIONS: usually in the form of a retention enema. You will see an instillation sample in clsss.

a. Prepare your equipment.

b. Allow the patient to evacuate his bowel.

c. Place the patient in Sims' position on his left side. (Lower leg straight, upper leg drawn up towards his chest.)

d. Expose and locate the anus

e. Insert the tubing approximately 4 inches beyond the anal sphincter

f. Introduce the fluid slowly

g. Remove the tubing. If the patient can't control the urge to evacuate, you or he may apply pressure over the rectum, using an absorbant pad

SUPPOSITORIES: This is a drug prepared in a solid oil base. It will melt in a matter of minutes when exposed to body heat.

a. Place the suppository in a medicine cup

b. Take the suppository, a finger cot or rectal glove, a gauze pad add lubricant to the patient's bedside

c. Place the patient in Sims' position add expose the anus.

d. Remove the wrapper and lubricate the suppository with a drop of sterijell or mineral oil. Some may already be lubricated

e. Place the finger cot or the glove on your hand

f. Insert the suppository past the anal sphincter

g. Remove and discard the glove or the finger cot

h. Insert the patient regarding when he may defecate

PARENTERAL MEDICATIONS

OBJECTIVE

Under supervision and given a parenteral medication order accurately prepare and give a medication to a fellow student. Sixty-five percent of the items on checklist 3ABR90230-V-7f must be accomplished.

INTRODUCTION

You have just learned some of the basic principles involved in administering oral, sublingual and rectal medications. There is another method for administering medications of which you are very much aware, injections. Administering injections is a serious and important part of patient care. The accuracy of selecting the injection site and the excellence of the injection technique are directly related to the effectiveness of the medication. An improperly placed injection or faulty technique may not only limit the action of the drug but may injure your patient.

This study guide, accompanied by instructor demonstration and assistance while you practice, will supply you with the necessary information and procedures for your early experiences on the job.

INFORMATION

ADMINISTRATION OF PARENTERAL MEDICATIONS

Medication is given by injection when giving it by any other methods would be unsatisfactory. You have noted many factors considered in choosing a route for administering a medication in a previous lesson. There are specific reasons and advantages for giving injections. First, the mental or physical state of the patient may make any other route difficult or impossible. Second, a quick and sure response may be desired. Third, there is guaranteed accuracy of the amount of medication received by the patient. Fourth, irritation of the digestive tract, loss of medication through emesis, and destruction by digestive juices is eliminated. Fifth, local effects to anesthetize or to concentrate medication in a specific area may be achieved.

Factors Influencing The Type Of Injection

When a relatively rapid systemic action is desired, or when a large dose of medication is involved, the physician will order intramuscular administration. Muscular tissue, because of its density and excellent blood supply, is able to withstand a large dose of medication and to absorb quickly.

When slower absorption is desired, subcutaneous administration will be ordered. Subcutaneous tissue has fever and smaller blood vessels. This causes slower absorption and, in some cases, a longer lasting effect.

When the physician wishes to determine a specific allergen or disease to which the patient has been exposed, he may order skin testing. Limited local reactions to very small amounts of antigen may be obtained by injecting into the skin intradermally. Recently it has been found that some immunizations such as "flu injections" may be administered by this method, causing fever side effects while achieving an adequate effect.

Equipment

It is generally understood that administering an injection requires the use of a needle and syringe, but what size? What determines the basis for selection? From your previous studies on Sterile Aseptic Technique, you know that anything used to enter the body must be kept sterile. Keeping this in mind, what parts of the needle and syringe must be kept sterile, all or part? What are the parts?

SYRINGE

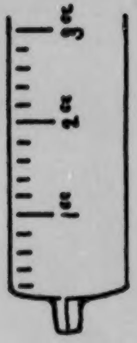
Parts

- The barrel: holds the medication, and is calibrated in cc's.
- The plunger: the part that fits tightly inside the barrel, and enables us to inject the medication.
- The tip: the part of the syringe to which the needle is attached.

Sizes

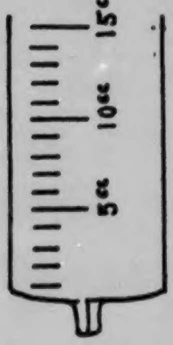
- Syringes may be obtained in many sizes from 1cc to 50cc. Selection of a syringe depends upon the dose of medication which is ordered. The 2½cc syringe is very common.

Parts to Be Kept Sterile. There are three definite parts of the syringe that must be kept sterile.



- The inside of the barrel must be kept sterile to avoid contamination of the medication, thereby preventing introduction of infectious organisms into the patient.
- The plunger, the part that fits tightly inside the barrel.
- The tip of the syringe, the part of the syringe to which the needle is attached.

Basis for selection. The basis for selection of a syringe depends on two factors:



- The syringe must hole the amount of medicine ordered by the physician.
- The syringe must provide the most accurate calibration to insure accurate' dosage order by the physician.

Example: 3cc's of medicine can be measured more accurately with a 5cc syringe than with a 20cc syringe.

NEEDLE

Parts

- Hub. Fits onto tip of the syringe.
- Shaft. The long slender portion of the needle.
- Bevel. The slanted portion of the needle that ends at the point.

Sizes

The sizes of needles are measures by their length and gauge.

- The length of the needle depends on the type of injections and the size of the patient. (Common lengths ½ to 2 inches.)
- The gauge of the needle is the bore, or size of the hole in the shaft of the needle through which the medication passes (common gauges 18 to 26)

Parts to Be Kept Sterile

All parts of the needle should be kept sterile except the outside of the hub. You usually have to touch the hub to connect the needle to the syringe.

Basis for Selection

The length of the needle depends on the depth of the injection. Intramuscular injections generally require a length of 1 to 2 inches. For adult patients we commonly use 1¼ or 1½ inch needles. Subcutaneous injections are given with needles which are ½ to 5/8 inch in length. Intradermals are commonly given with needles ½ inch in length.

The gauge of the needle depends on the viscosity (thickness) of the medication. You will also note that shorter needles are made with smaller bores or gauges identified by larger numbers. Examples of common needles you will find on your nursing unit are:

18 x 1 1/2
20 x 1 1/4
22 x 1 1/4
23 x 1
25 x 5/8
26 x 1/2

Antiseptic Sponges. Alcohol sponges are generally used for cleansing the injection site and the tops of medication containers. Individually packaged sponges are preferred as they assure a greater degree of asepsis.

QUESTIONS

1. List five reasons or advantages for giving injections.

2. Why would the following routes be chosen for an injection

   Intramuscular:

   Subcutaneous:

   Intradermal:

3. What parts of a syringe must be kept sterile?

4. How will you know what size syringe to select?

5. What part of the needle may be touched with your hands?

6. The size of the needle is indicated by what two measurements?

Preparation

GENERAL RULES. There are five general rules for preparing injections.

1. Injections should be prepared in the medicine room without distractions.
2. The work surface should be clean, dry and uncluttered.
3. You should assemble all needed equipment before beginning.
4. The basic principles of preparation of medications apply to the preparations of injections.
5. The use of SAT is imperative.

With these general rules in mind let's now proceed through the step by step preparation of injections, from the multiple dose vial, ampule, and the tubex.

MULTIPLE DOSE VIAL.

1. Wash your hands.
2. Assemble the equipment. Read the label on the vial.
3. Examine the vial for sediment or bits of the rubber stopper. Discard if anything is noted.
4. Cleanse the stopper with an alcohol sponge (A).
5. Withdraw (draw back) the plunger of the syringe to the amount of solution desired (B). Read the label before withdrawing medicine.
6. Insert the needle through the center of the stopper (C).
7. Push in the plunger, injecting air equal to the amount of medicine to be given. (To equalize pressure) (D).
8. Withdraw slightly more than the desired amount (E).
9. Remove the needle from vial. Read the label after withdrawing the medicine.
10. Expel air from syringe, holding syringe vertical.
11. Expel the excess medication, holding syringe horizontal. (To eliminate drops from rolling up the syringe and later back down to the needle)(F).
12. Tap the excess medicine from the needle.
13. Replace the protective needle cover.

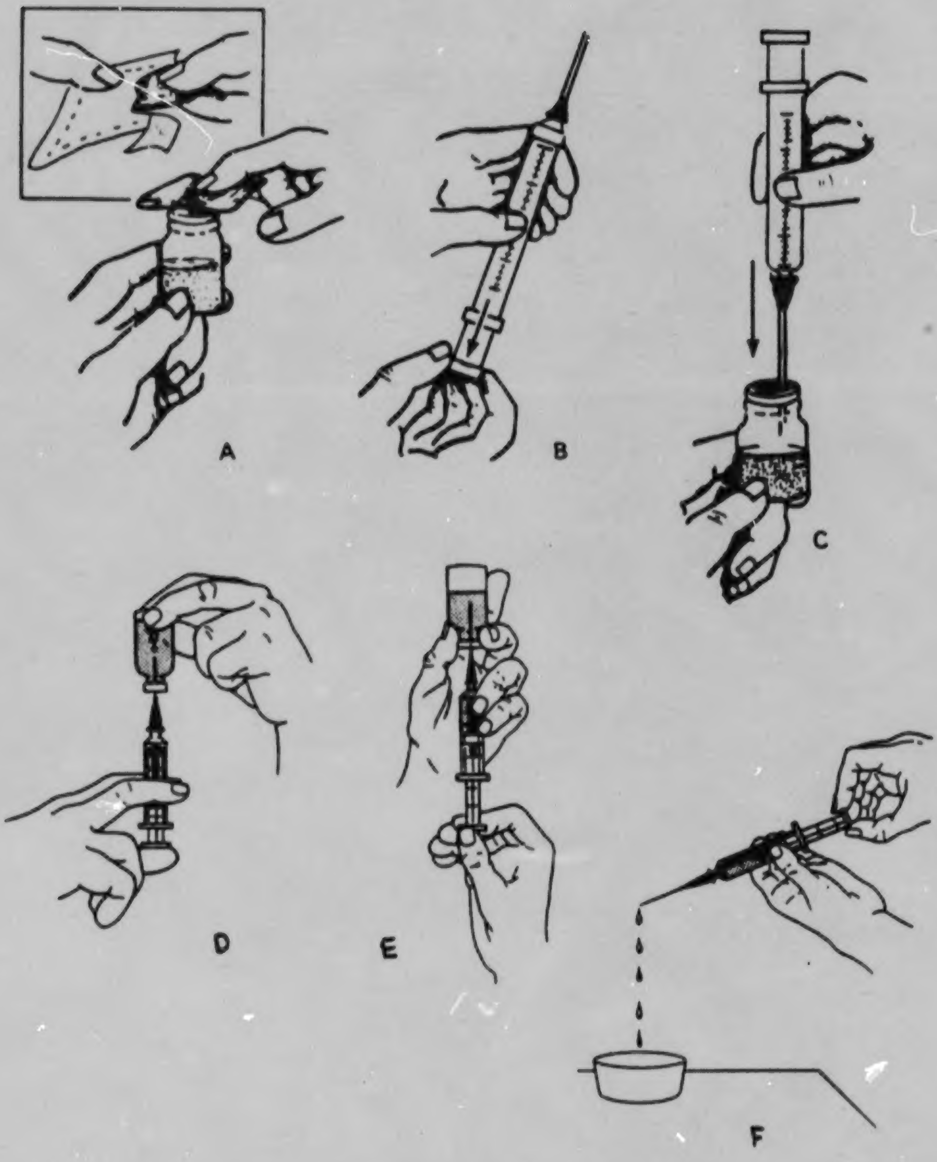


FIGURE 1 - Preparing an injection from a vial.

AMPUL (See Figure 2)

1. Wash your hands.
2. Assemble the equipment using SAT.
3. Read the label on the ampule.
4. Tap the fluid down from the tip of the ampule.
5. Wipe the neck of the ampule with an alcohol sponge.
6. Score the neck with a file if necessary.
7. Place the ampule in a 4 x 4 and break off the neck of the ampule at the marked or filled line.
8. Check the ampule for the presence of glass.
9. Hold the ampule right side up or place it on the table.
10. Re-read the label before withdrawing fluid.
11. Insert the needle shaft only, into the ampule.(Injection of air not necessary)
12. Withdraw slightly more than the desired dose.
13. Read the label after withdrawing the medicine.
14. Holding the syringe vertical, expel the air.
15. Holding the syringe horizontal, expel the excess medicine.
16. Tap the excess medicine from the needle.
17. Cover the needle with the cap.

NOTE: If fragments of glass are in the ampule, discard it and use a new one.

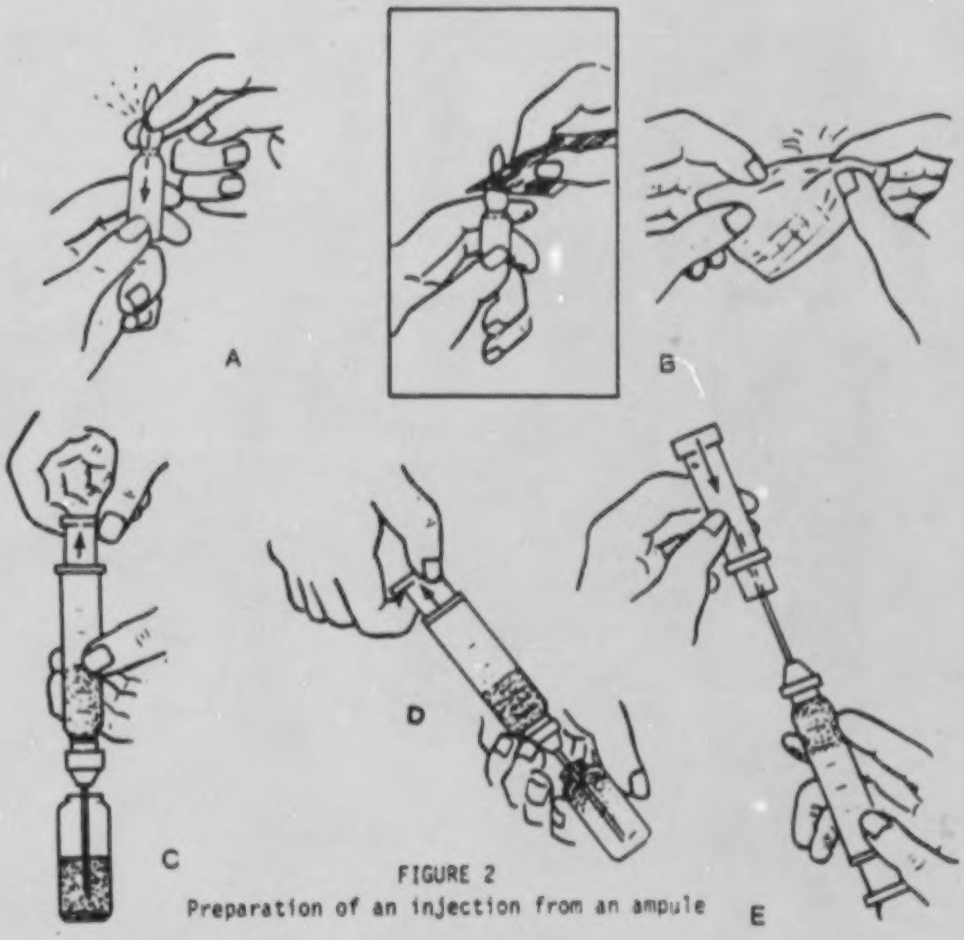


FIGURE 2
Preparation of an injection from an ampule

A. Tapping the top of the ampule will cause solution to collect in the body of the ampule. B. Clean the neck with an alcohol sponge and break inside a 4 x 4 to prevent cuts. C. Withdraw solution by setting ampule on work area or by holding in hand at an angle (Fig. D). E. Place the sterile protective cap over the needle for transport to the patient.

C. Tubex (See Fig. 3)

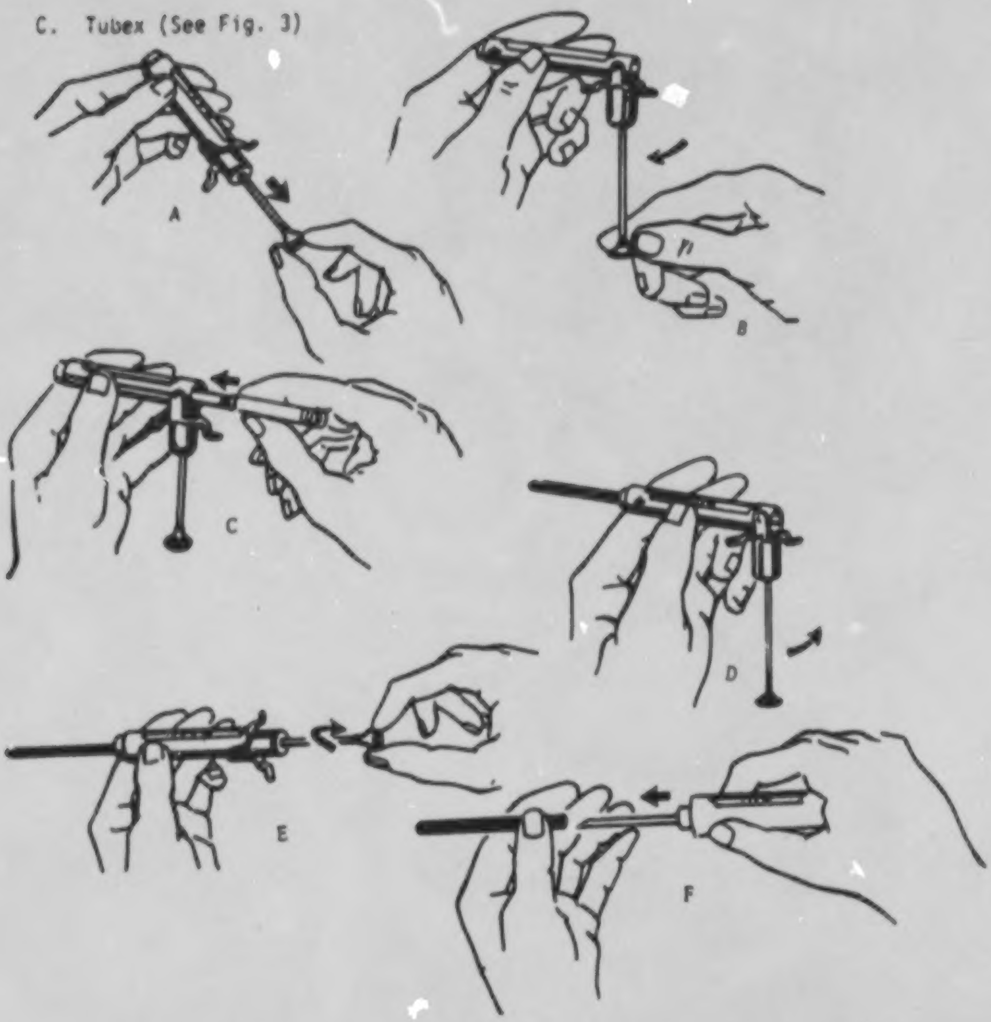


Figure 3 - Tubex sterile cartridge-needle unit. Following assembly, the prefilled cartridge is ready to be injected. A, The barrel of the syringe is held in one hand while the plunger is pulled back. B, The plunger is pulled downward until it locks at a right angle to the barrel. C, A sterile cartridge is inserted into the barrel, needle end first. D, The plunger is swung into place. E, The end of the plunger is turned until it is fitted tightly onto the threaded end of the cartridge. F, The cover is removed from the needle prior to injection.

QUESTIONS

1. Where should injections be prepared?

2. How many times should you read the drug label to eliminate error?

3. Why do you inject air into a multiple dose vial when you wish to withdraw medication?

4. Why do we suggest that you expel excess medication while holding the syringe in a horizontal position?

5. What should you do if you see sediment or any foreign substance inside an ampule or vial?

Precautions

Before you start to administer injections, you should be aware of several potential dangers. Exercise caution to avoid these dangerous conditions.

AVOID REACTIONS. Generally, the doctor and the nurse will obtain information from the patient about their allergies or the previous reactions they may have had. Check the chart. It is also good practice to check with the patient again, if you are giving a medication for the first time. Do it as casually as you can, however, for you don't wish to suggest to him that you are giving a very dangerous drug. You may explain that its just a routine practice to double check.

Promptly report your observation or the patient's complaint of rashes, hives or breathing difficulty.

AVOID HITTING A NERVE OR A MAJOR BLOOD VESSEL. The only proof method is to select the site with care and accuracy. (The site of injections will be discussed later during the administration of injections.)

AVOID INJECTING INTO THE BLOOD STREAM. ASPIRATE!! (Pull back on the plunger while stabilizing the barrel) Aspirate after inserting the needle into the tissue. If you do hit a blood vessel, when you aspirate you will feel little or no resistance and blood will appear in the syringe. STOP, remove the needle and prepare a new injection. When you aspirate, and you are not in the blood stream, you will feel resistance and an air space will form in the syringe. You are safe, you may now inject the medication.

AVOID GIVING THE WRONG MEDICINE, OR AMOUNT. Read the label three times to insure the correct medication. Check the dosage carefully against the physician's order. The physician has ordered a specific medication and dosage for the proper therapeutic effect against a particular disease process.

AVOID INFECTION. You must wash your hands, and it is IMPERATIVE that you use SAT.

Insure that you thoroughly cleanse the site of injection with an antiseptic. To avoid infection there are not shortcuts.

AVOID GIVING THE MEDICATION TO THE WRONG PATIENT. Ask him his name and check his ID band.

AVOID BENDING OR BREAKING THE NEEDLE. Why does this happen? The answer is the patient is apprehensive and not relaxed. How did you approach the patient? Did you attempt to establish rapport? Is you patient an adult or child? Has you patient had a traumatizing experience with previous injections?

How may you avoid this? Explain the procedure; tell the patient what you are going to do. Encourage the patient to relax; place the patient on a comfortable position. Encourage the patient to look elsewhere, he may flinch as the needle approaches the body. Keep the needle covered until you are ready for the injection. Frequently, the longer the patient looks at the needle, the bigger it seems to become.

Children and emotional patients: If not previously traumatized by past experiences, you can usually talk them into receiving the injection. Do not lie to them; tell them it may hurt a little. Tell them they may cry, yell, say ouch, but not move. Spend no more time explaining than is necessary. The longer you wait and the more uncertain you are, the worse will be the patient's response. Don't be frightened by thoughts of breaking the needle. Reasonable care will protect you from the experience.

AVOID TISSUE TRAUMA. Check needles visually for hooks and burrs to avoid tearing the tissue.

QUESTIONS

1. What can you do to help prevent patient reaction to injections?

2. How can you avoid hitting a nerve or a major blood vessel?

3. What is the purpose for aspirating when giving an injection?

4. How can you avoid giving the wrong medication or the wrong amount?

5. What are three ways you can help the patient avoid developing an infection as the result of receiving an injection?

6. How can you avoid bending or breaking the needle?

7. What might induce unnecessary tissue trauma when an injection is given?

Administration Procedures

There is a general order of steps which is common to all injections. In addition to these general steps, there are specifics, such as selection of equipment and injection site as well as the angle and depth which the injection is given.

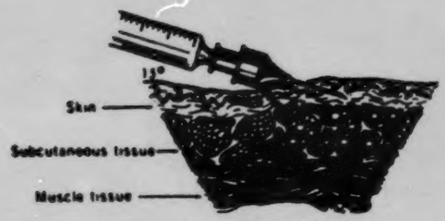
INTRADERMAL INJECTION. Given at a 15 degree angle. The anterior forearm is the recommended site due to the presence of thinner skin and less hair and freckles. Shallow injections are easier to give at this site. If the purpose is skin testing, reading the test will also be easier.

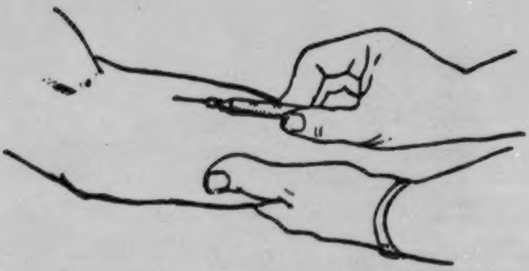
Equipmemt

1. Syringe - long slender 1cc size called a tuberculin syringe.
2. Needle - 26 x ½ is the common needle used. 25 x 5/8 could be used if necessary.
3. Antiseptic sponges.
4. Medication as ordered. Skin testing is usually accomplished with 0.1cc or 1/10cc. Things such as "flu shots" will be given in a somewhat larger dose.

Procedural Steps

1. Wash your hands
2. Prepare the injection as per instructions on previous pages.
3. Place injections on a small tray with the medication cards and sponges (if tray is available)
4. Take the equipment to the patient's bedside
5. Identify the patient
6. Explain the procedure
7. Position the patient - sitting or lying with his arm on the table or the bed
8. Cleanse the injection site and allow to dry. This will eliminate the sting which would be caused by alcohol getting under the tissue
9. Pull the skin tight with the thumb of your hand opposite the hand in which you are holding the injection. (Place your thumb as close as you can to the injection site and pull downward)
10. Insert the needle for about ½ inch just under the skin with the bevel up
11. Do not aspirate
12. Inject the medication slowly
13. Remove the needle at the same angle
14. Do not massage
15. Destroy and dispose of equipment as instructed





NOTE: Needles and Syringes should never be discarded in a patient's bedside waste bag or in the waste basket in a patient's room. You should bring them to the utility area, break needle and syringe to that they are no longer usable and discard them in the container provided. Some institutions now have a special machine for destruction of needles and syringes. When this machine is available, you will be instructed regarding its use. When such equipment is not available, broken needles and syringes are usually kept in separate waste containers and taken directly to the incinerator. Reasons for these precautions include prevention of injury hazards to patients and staff as well as to prevent further use of needles and syringes by unauthorized persons.

SUBCUTANEOUS INJECTION. The subcutaneous injection (abbrev. Sub-Q or H) is given at a 45 degree angle into subcutaneous tissue. The slanted angle is preferred for the purpose of avoiding injection into muscle tissue of the patient of average physical structure. You may observe this type of injection being given at a 90 degree angle when the patient is heavy and has a thick layer of subcutaneous tissue. Usual sites chosen are the outer upper arm -- 4 inches above the bend of the elbow or the anterior lateral aspect of the thigh.

Equipment

1. Syringe - 2½ cc or insulin syringe
2. Needle - 25 x 5/8 or 26 x ½
3. Antiseptic sponges
4. Prescribed medication (usually ½ to 1cc, never more than 1½cc)

Procedural steps

1. Wash your hands
2. Prepare the injection as per instructions on previous pages.
3. Place the injection on a small tray with the medication card & sponge.
4. Take the equipment to the patient's bedside

5. Identify the patient

6. Explain the procedure

7. Position the patient - When you select the arm as the injection site, allow hospitalized patients to sit or lie down to afford greater relaxation. It may be more convenient for both the patient and the specialist to remain standing in a clinic setting.

   When you select the thigh site, you will prefer to have the patient sit down or lie on his back.

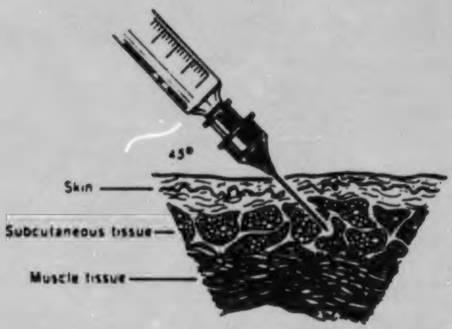
8. Remove clothing as necessary to free injection site.

9. Cleanse the injection site and allow it to dry. (park the sponge between the fingers of your least active hand)

10. Using the hand opposite the one in which you hold the syringe, place your thumb and forefinger about 3 inches apart and bunch up the tissue.

11. Insert the needle quickly all the way to the hub.

12. Maintaining the same angle of the syringe, move your opposite hand to support the syringe barrel, as well as keeping the hand braced against the patient's arm or leg.



13. Aspirate by a very gentle backward pull on the plunger. If no blood appears in the syringe.

14. Inject the medication slowly.

15. Remove the needle quickly at the same angle.

16. Apply firm, but not severe, pressure with the sponge and massage the injection site for five seconds (2 to 3" diameter). (This promotes circulation)

17. Destroy and dispose of equipment as instructed.

INTRAMUSCULAR INJECTION. The intramuscular injection (IM) is given at a 90 degree angle deep into the muscle tissue for rapid and efficient absorption. There are several sites where this injection may be given: mid-deltoid area, dorsogluteal area, ventrogluteal area and the anterior lateral thigh.

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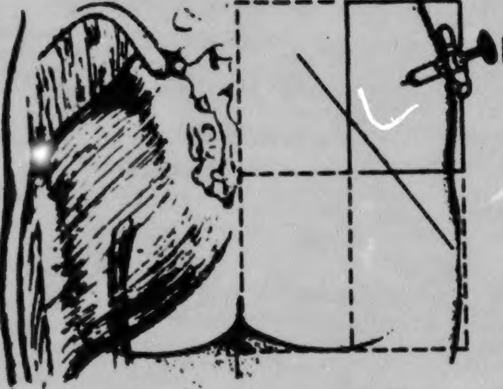
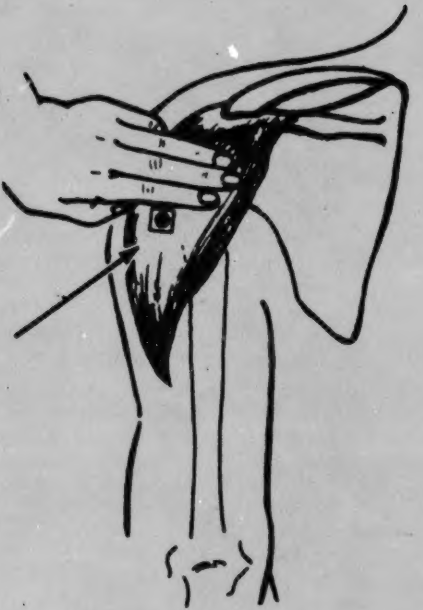
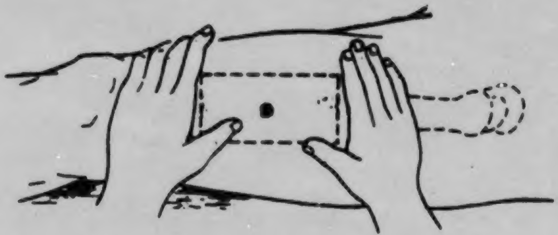


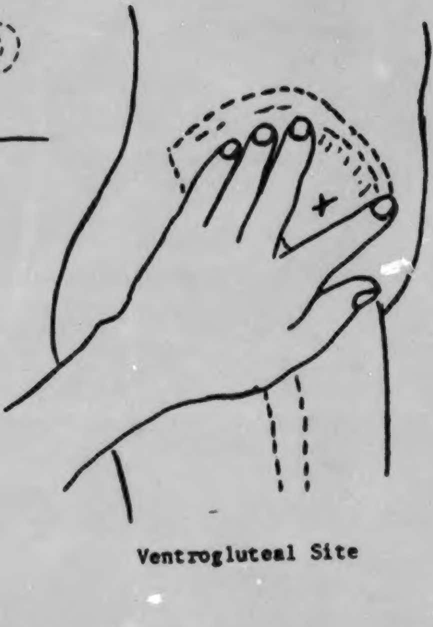
Dorsogluteal Site



Mid-deltoid Site



Anterior lateral thigh Site



Ventrogluteal Site

For a long time the dorsogluteal has been the most popular site with the mid-deltoid serving as an alternate in limited circumstances. Recently, the thigh and the ventrogluteal sites have been gaining popularity. Each site has its own advantages as well as its disadvantages.

The deltoid area may be used for relatively small intramuscular injections when given infrequently. It may be the area of choice when the medication causes little tissue irritation or when a first injection of a medication which has a relatively high incidence of reaction is given (such as penicillin). A tourniquet could be applied to delay complete absorption into the blood stream. There is a greater tendency to use this site if possible for clinic patients due to convenience. Large injections, liver or iron preparations, most antibiotics and drugs known to cause pain or irritation should be given elsewhere.

The ventrogluteal area is preferred by some physicians but is difficult to safely locate as it takes much exploration of the patient's bone structure.

The anterior lateral thigh is coming into greater use. It is thought to be both safe and convenient. It is an especially good site to use when a patient is receiving a series of injections and you find it necessary to find alternate sites. Most adult patients will have adequate tissue for use of a 1" or 1-1/4" deep injection.

The dorsogluteal area is a very good injection site due to the fact that most people have adequate muscle tissue and excellent circulation here. The danger of using this area lies in careless identification of the safety zone. You will notice that the diagram shows the buttock divided into four sections. The safety zone is shaded and lies in a portion of the upper outer quadrant. Caution must be used in avoiding areas along the inner or lower quadrants due to the presence of the sciatic nerve and large blood vessels. When you attempt to locate the safe area, you must consider the rounded shape of the buttock and draw your imaginary midline far enough toward the patient's side. Check the diagram very closely and note how the lined areas actually include the side of the patient. This is the site that you will use for practice in this course.

Because muscle tissue is involved, it is important to get your patient to relax while receiving an intramuscular injection. Tense muscles make the injection more painful to the patient and more difficult for the specialist to give. Patients receiving injections in the deltoid area may be allowed to stand but when other areas are used, the patient must be lying down. When the thigh is used, the patient may lie on his back. When the ventro or dorso gluteal area is used, positioning the patient on his side is both practical for working and effective for relaxing the site.

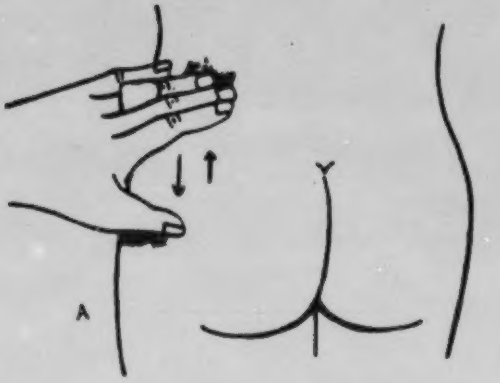
Equipment.

1. Syringe - usually 2½cc or 5cc
   Tubex syringes come in smaller sizes.
2. Needle - 19 to 22 gauge
   1½ to 2 inches large
3. Antiseptic sponge
4. Prescribed medicine - (½ to 2cc per site is common. By no means give more than 5 cc in one shot.)

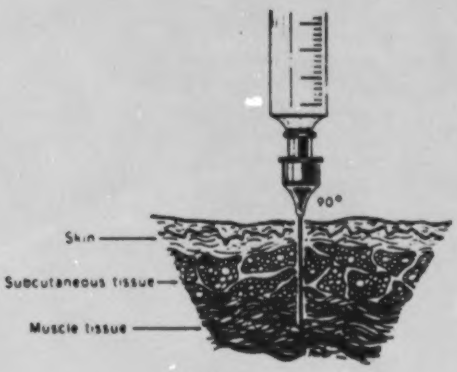
Procedural Steps.

1. Wash your hands.
2. Prepare the injection as per instructions on previous pages.
3. Place the injection on a small tray with the medication card & sponge.
4. Take the equipment to the patient's bedside.
5. Identify the patient.
6. Explain the procedure
7. Position the patient on his side
8. Remove the clothing as necessary to free the injection site. This is no time to be modest, you must have room to locate the proper area and to give the injection, using good technique.
9. Cleanse the injection site and allow it to dry. There is no particular way to do this other than apply gentle friction with the moist sponge over an area of 2 to 3 inches in diameter. Remember this is mechanical cleansing, not sterilization, You are merely removing dirt, body oils and dead skin.
10. Park the sponge between the fingers of the hand not holding the syringe.
11. Use the same hand to stretch the skin over the injection site.
12. Insert the needle quickly - all the way to the hub. An exception to the depth of insertion might be made when a patient is very thin.
13. Maintaining the same angle of the syringe, use the hand which was stretching the skin to support the syringe barrel (while remaining braced against the patient's body).
14. Aspirate by a gentle backward pull on the plunger. If no blood appears in the syringe.
15. Inject the medication slowly.
16. Remove the needle quickly at the same angle.
17. Apply firm pressure with the sponge and massage the injection site for at least five seconds (approx. a 3 inch diameter).

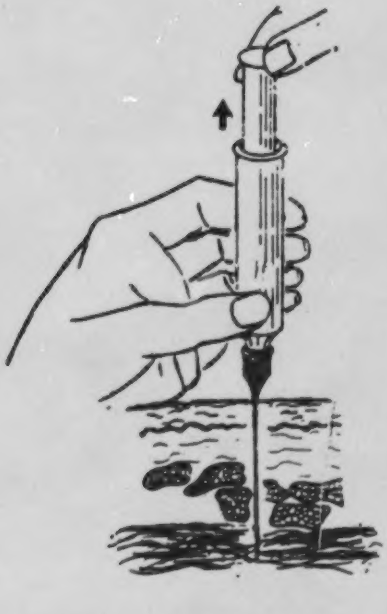
18. Destroy and dispose of the equipment as instructed, (Never in the patient's waste container).



Notice the sponge parked between the fingers of the left hand while the specialist stretches the skin for an IM.



A 90° angle is used, and the needle is inserted to the hub, so that underlying muscle tissue is reached.



Support the syringe with one hand braced against the patient's body while you first aspirate and then inject with the other hand.

QUESTIONS

1. Name the angles at which each of the following injections are normally given to adults.

   Intradermal
   Subcutaneous
   Intramuscular

2. Match the type of injection with the appropriate amount of medication below

___ Subcutaneous	a. 0.1 cc
___ Intradermal	b. .5 to 1 cc
___ Intramuscular	c. .5 to 2cc

3. List the sites used for injections

   Intradermal

   Subcutaneous

   Intramuscular

4. Why would a physician order a drug to be given subcutaneously rather than intramuscularly?

5. What should you always do when giving injections other than by the intradermal method?

6. Why should you massage the injection site after giving a subcutaneous or an intramuscular injection?

7. What is the purpose of the procedural step above?

8. Why must we be careful about the way which we dispose of needles and syringes?

REFERENCES
1. AFM 160-34, Medical Airman's Manual, pages 4-97, 4-101.
2. Sutton, Audrey L., Bedside Nursing Techniques, 1969, pages 76-80.

CHECKLIST

SUBCUTANEOUS INJECTION

TASK ELEMENTS:

1. Prepare a subcutaneous needle and syringe--an appropriate size for the medication to be given (2 1/2 cc syringe and 25 gauge needle).

2. Check medication label.

   a. When removing from the box
   b. Before withdrawing
   c. After withdrawing

3. Tap the top of the ampule until all solution is in the body of the ampule.

4. File and clean the neck of the ampule.

5. Cover the neck and body of the ampule with 2 x 2s and break it at the scored area.

6. Insert the needle into the ampule, without touching the hub to the inside of the ampule.

7. Withdraw slightly more than the prescribed amount while holding equipment right side up.

8. Holding the needle and syringe vertical expel the air.

9. Check the dose for accuracy, expel excess medication while holding the syringe in a horizontal position.

10. Tap the syringe while holding it in a horizontal position to eliminate drops of medication from running from the contaminated area to the needle.

11. Return the needle cap.

12. Identify the patient. Check both his name and his ID band.

13. Explain the procedure.

14. Position the patient and remove clothing as necessary to free the injection site.

15. Locate the posterior surface (triceps) of the upper arm about four inches above the elbow.

16. Cleanse the area and park the alcohol sponge.

17. Bunch up the skin and insert the needle at a 45° angle to the skin.

18. Support the syringe barrel with your least active hand.

19. Aspirate gently with your active hand.

20. Inject the solution slowly.

21. Remove the needle quickly.

22. Maintain a 45° angle during aspiration, injection and removal of the needle.

23. Maintain SAT throughout the procedure.

24. Dispose of equipment as instructed.

25. Did not violate major patient safety measures 2, 9, 12, 15, and 23.

CHECK LIST 3ABR90230-V-7f

	POINT VALUE	S	U	REMARKS
*1. Prepare needle and syringe for subcutaneous injection.	10			
*2. Check medication labels at proper intervals.	10			
*3. Open ampule of medication using proper procedure.	10			
4. Correctly withdraw medication from ampule.	5			
*5. Using proper procedure expel air and excess medication from needle and syringe and replace cap on needle.	10			
*6. Correctly identify your patient.	10			
7. Explain procedure to the patient position patient and remove clothing as necessary.	5			
*8. Locate proper injection site (posterior surface of the upper arm about four inches above the elbow).	10			
9. Cleanse site with alcohol sponge.	5			
10. Correctly insert needle at 45 degree angle and keep supported.	10			
11. Aspirate gently.	5			
12. Inject solution slowly and remove needle quickly.	5			
13. Dispose of equipment properly.	5			
TOTAL	100			

*Any violation of Safety precautions and SAT constitutes automatic failure.

Procedural Steps listed in detail in SW 3ABR90230-V

65% constitutes passing grade

INSTRUCTOR ______________________ DATE ______________________

CHECK LIST 3ABR90230-V-7g

	POINT VALUE	S	U	REMARKS
1. Assemble all necessary equipment.	5			
2. Explain procedure to patient	5			
3. Prepare adhesive tape strips	5			
4. Connect infusion set to correctly identified IV bottle and place bottle on IV pole.	5			
5. Clear air from IV tubing and needle	5			
Call instructor to do venipuncture				
6. Apply tourniquet when directed by instructor.	5			
7. Release tourniquet after venipuncture has been made.	5			
8. Open up flow of IV fluid.	5			
9. Adjust the rate of flow as directed.	10			
10. Apply armboard properly.	5			
11. Give accurate diescriptive definition of infiltration.	10			
Discontinue I.V. when directed				
12. Explain procedure to patient.	5			
13. Clamp tubing.	5			
14. Remove tape properly.	5			
15. Remove needle properly.(simulate)	5			
16. Apply pressure over IV site to stop bleeding.	5			
17. Report amount of fluid remaining.	5			
18. Dispose of IV equipment properly.	5			
TOTAL	100			

NOTES:
1. 65% constitutes passing grade.
2. Procedural steps listed in detail in SW 3ABR90230-V

INSTRUCTOR ______________________ DATE ______________________

Department of Nursing
School of Health Care Sciences, USAF
Sheppard AFB, Texas 76311

HO 3ABR90230-V-1

August 1975

CASE STUDIES

CASE STUDY #1

On Sunday, Rudy spilled a frying pan full of hot flaming grease on his abdomen, back and right thigh. His screams brought his mother running. She rushed him to the emergency room. The MOD examined him and noted he had suffered large blistering burns ____________________ on his abdomen and back and several smaller charred burns________________ on his right thigh.

The MOD estimated Rudy's burns covered 15% of his body.

Rudy was admitted to the Intensive Care Unit after the MOD had started dextran by a vein in his ankle with a microdrip_______________________________
____
The MOD also inserted a catheter that stays in the bladder (indwelling).

The following doctor's orders were written.

1. Reverse Isolation____
   ____
2. Codiene Sulfate 15mg IM ______________ STAT _____________
3. Record all fluids taken in and put out
4. Nothing by mouth x 48 hours
5. Hematocrit every 4 hours________

On Rudy's fourth hospital day, he was transferred to the pediatric service. He still remained on reverse isolation though. It was noted the following morning by the nurse that Rudy was lethargic _______________ _____________________and had developed respiratory complications. The MOD was notified and he ordered Rudy placed in a croupette _______________ ________________________________ and he would be in immediately to examine him. While the MOD was listening to Rudy's chest with a stethoscope, he heard a murmur____
____
When the MOD questioned the parents about it later, it was discovered that his murmur was a congenital anomalie_______________________________ and the parents were aware of this condition.

CASE STUDY #2

On 31 December, a 24-year old male was seen in the emergency room with reddness of the skin__________, excessive perspiration and a lot of welt-like eruptions on his body that looked like hives

His general appearance indicates he has a hypersensitivity to a substance or condition

Designed for ATC Course Use

DO NOT USE ON THE JOB

While obtaining a history, the patient stated he had taken several drugs used to relieve anxiety and tension ____________ because he had become accustomed to these drugs from frequent use and it helped him emotionally ______________. He had also taken another drug, not realizing it would strengthen the action of the other drug ____________. Neither did he realize that unexpected reactions to a drug do occur occasionally ______________. The patient was admitted to the medical service for observation.

The following doctor's orders were written:

1. A substance which produces vomiting ______.

2. Intake and output X 24 hours.

3. A substance to relieve or reduce fever ______________, prn ____________________.

4. IV solution X 24 hours and watch for fluid collection and swelling around the IV site that indicates the needle has become dislodged from the vein ______________.

CASE STUDY #3

Sgt Jones was seen in the emergency room for severe right flank pain and difficulty urinating. He has had these same symptoms several times in the past five years.

Following his current episode of the above symptoms, he was admitted for further evaluation and treatment to the branch of the medical department concerned with genito-urinary tract of the male, and urinary system of the female ______________ for further evaluation and treatment.

His admission physical exam showed that in the past he had frequent episodes of difficult or painful urination __________ and blood in his urine ____________. It was also noted that he had been having a decrease in urinary output ______________. When the doctor received results of the STAT __________ laboratory workup done in the emergency room and visual examination of the bladder ______________, it was determined he had stones in the urinary tract ________________ and inflamation to the urethra __________. Sgt Jones was scheduled for immediate surgery.

Sgt Jones' postop period was not uneventful. Two days after surgery he developed chest congestion. A chest X-ray was accomplished which showed the alveoli in the right lower lobe of the lung filled with mucous and a culture of the mucous showed an inflamatory exudate in response to an infection __________.

Doctor Smith wrote the following orders:

1. IPPB ____ with saline TID ________________________________.

2. Removal of secretions by gravity drainage __________.

3. A drug used to encourage the kidneys to secrete urine __________.

4. A drug to help loosen secretions in the bronchial tree ____________.

5. A drug to help loosen and encourage removal of secretions of the respiratory tract ________.

CASE STUDY #4

At 0300 hours, Rose delivered a 7 pound 5 ounce boy following a normal labor and delivery.

The temporary structure within the uterus which establishes communication between the mother and embryo/fetus ________ was expelled intact. The incision of the perineum ________ was repaired.

Immediately following delivery, silver nitrate and antibiotic ointment were instilled in the baby's eyes, he was footprinted and identified with an identaband around his ankle. The baby was taken to the nursery and placed in a crib in the Trendelenberg position. He was watched closely for blueness of the skin ________ motor ability, and M.O.A. His temperature was taken R. ________ q4hrs ________ and initial micturition ________, and bowel evacuation were observed and recorded.

The physician wrote the following orders for Rose's care during the time after delivery that it takes the female body to return to its pre-pregnant status ________.

1. Ferrous Sulfate 300 mg ________ po ________ TID ________.

2. Darvon compound 65 mg po prn ________ for pain.

3. Chloral hydrate 500 mg po hs ________ prn.

4. MOM 30 cc's ________ po, hs prn.

5. Shower as desired.

6. Blood pressure qid ________ with a sphgmomanometer ________.

7. Record I and O ________ for the first 24 hours.

8. Heat lamp to episiotomy prn.

CASE STUDY #5

Capt Kaufman has weathered a succession of respiratory diseases. He has filling of the alveoli with inflamatory exudate in response to infection ________. In adolescence he developed hayfever, and as a young adult he suffered from chronic inflamation of the sinuses ________ and inflamation of the bronchi ________. At age 35, he was diagnosed as having Bronchiectasis; despite medical care his symptoms worsened.

He was admitted today to remove the diseased portion of his lungs.

His admission physical exam showed evidence of weight loss, and some increase front ________ and back ________ diameter of the chest and areas of decreased resonance and moist rales in the right lower lung.

The following preop ______ orders were written by the doctor:

1. CBC and Hemoglobin
2. Urinalysis
3. Chest X-ray
4. Pulmonary function test
5. Bronchoscopy ______
6. Bronchogram
7. ECG ______

The following orders were written for Capt Kaufman's treatment after surgery:

1. Procaine penicillin 600,000 units IM ______ BID ______.
2. Tetracycline 350 mg ______ po ______ q6hrs.
3. Saturated solution of potassium iodine 5 mimims qid ______ ______.
4. Nembutal 90 mg hs ______ prn ______.
5. Hi protein ______, Hi vitamin Hi calorie diet.
6. Push fluids.
7. Postural drainage for 15 minutes TID ______.

CASE STUDY #6

Sgt Smith is a 68-year old retired USAF CMSgt, who had a stroke ______ seven days ago with a resulting impairment of motor function of the right side ______, and inability to speak. His respiration is fast and deep ______, and his skin and nail beds are blue ______. His heart rate was excessively rapid ______ and his temperature was elevated. It was noted that he had an open sore on his back, and having some drainage containing pus ______.

It was noted on his admission X-ray that a portion of the right lung was collapsed due to an obstruction of a bronchial tube ______. There was some fluid between the chest wall and left lung which would require removal by surgical puncture with a needle and syringe ______.

He was given an injection ______ of penicillin for injection, and about 15 minutes later he developed a rash and intense itching ______. This was a hypersensitive response ______. Sgt Smith was given a skin test and a suitable drug which inhibits the growth of or kill microorganisms ______ was administered.

He was admitted to the intensive care unit. The following day he was transferred to a semi-private room on the medical ward.

Doctor Rogers has written the following orders:

1. Side rails to the bed.

2. Record urinary output.

3. Nasal oxygen 6 L/min ______________________ for difficulty breathing ____________.

4. Out of bed in a chair prn ____________.

5. Low salt, low carbohydrate ________ diet.

CASE STUDY #7

On 1 September, SSgt Moore was seen by an internist in the General Therapy Clinic due to his state of mental drowsiness __________ and fatigue. He told the internist that he consistently had a general ill feeling ________ and been losing weight for the past few months. He also told the internist that he has had a persistent cough from a cold he had three months ago. He stated that he had been awakening at night and would find himself soaked in sweat ________________.

On the basis of the patient's history, the internist ordered lab and X-ray studies STAT ________________. Due to the results of these lab studies, which showed tubercle bacillus, an infectious disease affecting the lungs ________________, a primary diagnosis was made. The internist also made a secondary diagnosis of filling of the alveoli with inflamatory exudate in response to an infection _____________. A skin test and gastric wash was done with positive results which confirmed the internists primary diagnosis.

Since Sgt Moore's disease is capable of being transmitted from one person to another ______________, he was placed in an environment used to separate patients with a disease from people who don't have the same disease __________. Because of the drainage which contains pus __________ of the tubercle bacillus organism in the patient's sputum, it was necessary for the nursing personnel to have a device placed between the clean area and contaminated area ________ to prevent carrying the infectious agent Sgt Moore has to another patient ________________.

PROGRAMMED TEXT 3ABR90230-V-7

DEPARTMENT OF NURSING

MEDICAL SERVICE SPECIALIST

10-11
Block V

THE METRIC SYSTEM

August 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
SHEPPARD AIR FORCE BASE, TEXAS

Designed For ATC Course Use

DO NOT USE ON THE JOB

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Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

PT 3ABR90230-V-7
August 1975

THE METRIC SYSTEM

OBJECTIVE

Select basic principles of the metric system.

INTRODUCTION

The programmed text was designed by the Instructional Systems Development Branch of the USAF School of Health Care Sciences. It is specifically addressed to students of Course 3ABR90230, Medical Service Specialist and may be used as supervised classroom study, assigned homework or as directed remedial study.

The text was developed to serve as an element of a unit on the administration of medications. When completed before or near the beginning of the unit, the text will provide the necessary knowledge of the metric system, including a remedial review of the necessary mathematics.

You are already familiar with the household system of measurement in which length is expressed in yards, feet, inches, etc., volume is expressed in gallons, quarts, pints, etc., and weight is expressed as tons, pounds, ounces, etc. But as a Medical Service Specialist you will be required to use the metric system, for it is the one used to package, bottle, label, prescribe and dispense all drugs and medications.

INSTRUCTIONS

You should study the program as follows:

First, read each frame carefully. Then, write in the answer as directed. Study each frame carefully. Then, write in the answer as directed. Study each frame carefully before writing your answers; do not write the answers until you are satisfied in your own mind that they are correct. If you are not sure, write your answer and then turn to the confirmation section near the back of the text.

Supersedes PT 3ABR90230-II-2, September 1973

SECTION A - THE METRIC SYSTEM

1. In the metric system, weight is expressed in grams, linear measurement is expressed in meters, and liquid volume is expressed in liters.

   The system which uses grams, meters and liters is called the ( ) system.

2. The primary units of measurements in the metric system are ( ), ( ), and ( ).

3. Which of the following units of measurement belong to the metric system? (Circle your answers below)

   a. pound
   b. gram
   c. gallon
   d. liter
   e. yard
   f. meter

4. The gram, which is a much smaller unit than our commonly used pound, is the basic metric unit used to measure (Circle your answer below)

   a. volume b. length c. weight

5. Length, in the household system, is measured in inches, feet, yards, etc. In the metric system, however, the primary unit for the measurement of length is the meter.

   With the metric system, length is measured in ( ).

6. When using the metric system to measure the length of an item, you would record its length as so many ( ).

7. In the metric system, the primary unit of weight is the ( ); the primary unit of length is the ( ).

8. The primary metric unit of measurement used to measure volume is the liter.

   Which of the following is used to measure volume in the metric system? (Circle your answer below)

   a. pounds
   b. gallons
   c. meters
   d. grams
   e. liters
   f. inches

9. In the common household system, pints, quarts and gallons are used to measure volume. In the metric system, however, the primary unit used to measure volume is the ( ).

10. When items are weighed by the metric system, their weight is expressed in ( ).

11. The length of an item measured by the metric system is expressed in ( ).

12. The volume of liquids measured by the metric system is expressed in ( ).

13. When metric measurements are written, the amount is written as a numeral followed by the unit. Study these examples:

Four meters is written as 4 meters.
Four liters is written as 4 liters.
Twelve grams is written as 12 grams.

Now write the following measurements:

a. Four grams ( )

b. Eight liters ( )

c. Nine meters ( )

14. If the measurement contains a fraction, the fraction is written as a decimal. Study these examples:

4 1/4 meters is written as 4.25 meters.
4 3/4 liters is written as 4.75 liters.
4 1/8 grams is written as 4.125 grams.

Now, write the following measurements:

a. Five and one-half grams ( )

b. Three and one-fourth meters ( )

c. Four and three-quarter liters ( )

15. Write the primary metric unit used to measure weight, length and volume.

a. weight ( )

b. length ( )

c. volume ( )

16. You should also know the abbreviations for the three basic metric units of measurement. Abbreviations of the basic units are always capitalized.

17. The abbreviation for gram(s) is Gm.

Using the abbreviation, write 12 grams. ( )

18. The abbreviation for meter (s) is M

Using the abbreviation, write 2 meters. ( )

19. The abbreviation for liter (s) is L

Using the abbreviation, write 1 liter. ( )

20. Using abbreviations, write:

200 liters ( )

17 meters ( )

16 grams ( )

21. In addition to the three basic units you have just studied, the metric system has other units which are subdivisions of the basic units. Let us now study some of those subdivisions which are frequently used.

22. The common subdivision of the gram is the milligram (.001 of a gram.) The abbreviation for the milligram is mg.

Using the abbreviation, write 12 milligrams. ( )

23. When the prefix milli (m) is used with a basic unit (Gm., L., etc.) and the figure is less than 1000, the amount expressed is less than the basic unit.

Example: 500 mg. = .5 of a gram
250 ml. = .25 of a liter
700 mm. = .7 of a meter

24. When the prefix milli (m) is used with a basic unit and the figure is greater than 1000, the amount expressed is more than the basic unit.

Example: 1,500 mg. = 1.5 grams
2,500 ml. = 2.5 liters
1,700 mm. = 1.7 meters

Complete the following:

a. 350 milligrams = ( ) grams.

b. 2,300 milliliters = ( ) liters.

c. 1,800 milligrams = ( ) grams.

d. 300 millimeters = ( ) meters.

e. 1,200 millimeters = ( ) meters.

f. 450 milliliters = ( ) liters.

25 A meter may be divided into 100 parts; each part, then is one centimeter (.01 of a meter). The abbreviation for centimeter is cm. The abbreviation for cubic centimeter is cc.

Using the abbreviation, write 1 centimeter. ( )

Using the abbreviation, write 4 cubic centimeters. ( )

26. Using the abbreviation, write 500 centimeters. ( )

Using the abbreviation, write 400 cubic centimeters. ( )

27. The common subdivision of the liter is the milliliter, or .001 of a liter. The abbreviation for milliliter is ml.

Using the abbreviation, write 200 milliliters. ( )

28. Using the abbreviation, write 4 milliliters. ( )

29. Write the abbreviations for meter ( ), gram ( ), liter ( ), cubic centimeter ( ), milliliter ( ), milligram ( ) and centimeter ( ).

30. Using the correct abbreviations, rewrite each of the following:

a. 15 cubic centimeters ( )

b. 10 grams ( )

c. 9 milligrams ( )

d. 5 liters ( )

e. 1 cubic centimeter ( )

f. 17 milliliters ( )

g. 14 centimeters ( )

31. Just as it has subdivisions to express measurements less than the primary units, the metric system also has units to express measurements larger than the primary units. Those larger units are expressed by the prefix kilo which means 1,000. For example, 1 kilometer - 1,000 meters, 1 kilogram = 1,000 grams, and 1 kiloliter = 1,000 liters. The prefix that means 1,000 is ( ).

32. The abbreviation of kilogram is Kg, kilometer is Km and kiloliter is Kl. Abbreviations of prefixes whose values are larger than the basic units (Circle your answer below)

a. are capitalized. b. are not capitalized.

Abbreviations of prefixes whose values are less than the basic units (Circle your answer below)

a. are capitalized. b. are not capitalized.

33. A length of 5,000 meters expressed in kilometers would be written as 5 ( ).

34. An object that weighs 1 kilogram weighs how many grams? ( )

35. As you have already learned, an item which is shorter, or which weighs less than the primary unit may be expressed by the prefix milli. A milligram is .001 of a gram. How many milligrams are required to make up one gram? (Circle your answer below)

a. 10
b. 100
c. 1,000
d. 10,000

36. A kiloliter is equal to ( ) liters. A milliliter is equal to what part of a liter? ( )

37. To express 1,000 grams, 1,000 liters and 1,000 meters, you may use the same prefix which is ( ).

38. To express .001 of a gram, .001 of a liter and .001 of a meter, you may use the prefix ( ).

39. As you recall, 1 milliliter is used to express .001 of a liter. Another way to express that same amount is 1 cubic centimeter, abbreviated 1 cc. This is true because 1 cc. occupies the same space and has the same volume as 1 milliliter.

One cc. is ( ) one milliliter.

40. Do not get the two prefixes confused. Remember that the prefix milli means .001; the prefix centi means .01.

In the spaces below, write five cubic centimeters and eight centimeters, using abbreviations.

( ) ( )

41. To convert grams to milligrams, multiply the number of grams by 1000 or move the decimal three places to the right.

Example: 0.15 Gm. = 150 mg.

```
   0.15
X  1,000
--------
 0150.00
```

42. Convert 2.5 grams to milligrams. (   )

43. To convert milligrams to grams, divide the number of milligrams by 1000 or move the decimal three places to the left.

Example: 150 mg. = 0.15 Gm.

```
        0.15
1000) 150.00
      100.0
      -----
       5000
       5000
       ----
```

850 mg. = (   )Gm.

44. Now that you know the prefixes, work the following problems for practice. Check your responses.

a. 500 milligrams is the same as (   ) grams.

b. 2 grams is the same as (   ) milligrams.

c. 500 centigrams is the same as (   ) milligrams.

d. 350 milligrams is the same as (   ) centigrams.

e. 250 milliliters is the same as (   ) liters.

f. 180 liters is the same as (   ) milliliters.

g. 420 millimeters is the same as (   ) meters.

h. 3.5 meters is the same as (   ) millimeters.

i. 500 kilograms is the same as (   ) grams.

j. 4,500 grams is the same as (   ) kilograms.

k. 1 kilogram is the same as (   ) centigrams.

l. 2,500 centiliters is the same as (   ) kiloliters.

m. 3.5 kiloliters is the same as (   ) liters.

n. 1.6 meters is the same as (   ) kilometers.

SECTION B - ADMINISTERING DRUGS

In this section you will learn how to administer drugs as prescribed by the physician.

45. For all packaged and bottled medicines, the labels on the containers clearly indicate the quantity per tablet, capsule, cc., etc., contained within.

Example: The label for a container of aspirin reads "Aspirin Tablets U.S.P., 0.324 Gm." This means each tablet contains 0.324 Gm. This is true with all bulk drugs and medications. Answer the following questions.

a. The doctor has ordered "Gantrisin 500 mg." The label on the container reads ".5 Gm." How many tablets should you give? (   )

b. The doctor has ordered "Tetracycline .5 Gm." The label on the container reads "Tetracycline 250 mg." How many tablets should you give? (   )

c. The doctor has ordered "Demerol 75 mg." The medication is prepared in 50 mg. per cc. How many cc.'s should you give? (   )

d. The patient is to receive 1 Gm. of medication. The container label reads "250 mg." How many tablets should you give? (   )

e. The patient is to receive 25 mg. of Demerol. The medication is prepared with 50 mg. in each cc. How many cc. should you give? (   )

46. Match each unit in Column A with its definition from Column B.

A - Units of Measurement

( )a. kilo

( )b. liter

( )c. gram

( )d. milli

( )e. meter

( )f. centi

B - Definitions

1. metric system unit of volume
2. prefix meaning .001
3. prefix meaning .01
4. metric system unit of length
5. metric system unit of weight
6. prefix meaning 1,000

47. Now that you have mastered the metric system of measurement, your next step is to learn how to convert within the system. Perhaps you already know how to do this. If so, you will be able to answer the following questions. Check your answers with the conformation section.

a. 1 Gm. is the same as ( ) mg.

b. Kilo means ( ) when used with the primary unit.

c. Centi means ( ) when used with the primary unit.

d. Milli means ( ) when used with the primary unit.

e. 1 cc. and ( ) are the same.

f. Convert 0.75 grams to milligrams. ( )

g. Convert 0.25 Gm. to mg. ( )

h. Convert 0.04 Gm. to mg. ( )

i. Convert 1.5 Gm. to mg. ( )

j. Convert 0.6 Gm. to mg. ( )

k. Convert 100 milligrams to grams. ( )

l. Convert 60 mg. to Gm. ( )

m. Convert 750 mg. to Gm. ( )

n. Convert 450 mg. to Gm. ( )

o. Convert 5 mg. to Gm. (   )

p. 1.2 liters = (   )cc.

q. 0.3 liters - (   )cc.

r. 0.02 liters - (   )cc.

s. 0.63 liters = (   )cc.

t. 2 cc. = (   )L.

u. 350 cc = (   )L.

v. 20 cc = (   )L.

w. 700 cc. = (   )L.

x. 250 cc. = (   )L.

y. The doctor has ordered "Gantrisin 500 mg". The label on the container reads ".5 Gm". How many tablets should you give? (   )

z. The patient is to receive 100 mg. of Demerol. The medication is prepared with 50 mg. in each cc. How many cc. should you give? (   )

SECTION C - REVIEW OF DECIMALS

This section was designed to provide you with a review of decimals. When you have completed the section, you should be able to convert the measurement systems without any difficulty.

48. 0.1 one place to right of decimal is 1/10 or one-tenth.
0.01 two places to right of the decimal is 1/100 or one-one hundredth.
0.001 three places to the right of the decimal is 1/1000 one-one thousandth.
0.010 Note: this is the same as 1/100. You may drop the last zero.

Underscore the decimal fraction that has the least value.

49. 0.2, 0.25, 0.255

50. 0.6, 0.8, 0.04

51. 0.3, 0.6, 0.12

52. When adding decimals write the numbers so that the decimal points are directly under each other. Add the same as if they were whole numbers, keeping the decimal point directly under the one above.

Example: 1.5 + .75

$$\begin{array}{r} 1.50 \\ +\ \underline{.75} \\ 2.25 \end{array}$$

53. Work the following problems .

a. 7.5 + 2.5 + 2 = (   )

b. 3.25 + 5.75 + 2.25 = (   )

54. When subtracting decimals, again be sure the decimal points are directly under each other.

Example: 1 - .55

$$\begin{array}{r} 1.00 \\ -\ \underline{.55} \\ .45 \end{array}$$

55. Solve the following problems:

a. 10 - 9.99 = (   )

b. 5 - 1.75 = (   )

56. When multiplying numbers that contain decimals, you must remember to count off the decimal places in the answer.

Example: 1.50 (contains 2 places)
X.5 (contains 1 place)
.750 After adding the 2. You can see that the answer must contain 3 decimal places.

Multiply the following by .01, 10, 1000.

57. 10 ( ) ( ) ( )

58. 0.5 ( ) ( ) ( )

59. 4.5 ( ) ( ) ( )

60. To divide a whole number by a decimal the division must be converted to a whole number by moving the decimal all the way to the right. Move the decimal in the whole number the same number of places to the right. Divide as usual, placing the decimal directly above the moved decimal point.

<u>NOTE THE ARROWS BELOW</u>

<u>Example</u>: 4 ÷ 0.44

```
         9.09
0.44) 4.00.00
      3.96
        4.00
        3.96
           4
```

521

61. To round off a decimal number, increase the last place number by one when the next figure is five or greater, leave the last place number the same when the next figure is less than five.

Example:

a. Round off 1.876 to two places 1.876. The third number is five or more, so seven is increased by one, making it 1.88.

b. Round off 1.432 to one place after the decimal 1.432 Since three is smaller than five the number remains the same, making it 14.

62. Solve the following problems carrying the answer to two decimal points.

a. 8 ÷ .55 = (   )

b. 6.5 ÷ .04 = (   )

63. To change a common fraction to a decimal, divide the numerator by the denominator.

Example: Change $\frac{2}{5}$ (numerator) to a decimal fraction (denominator)

$$\begin{array}{r} .4 \\ 5\overline{)\,2.0} \\ \underline{2.0} \end{array}$$

64. Solve the following problems

a. $\frac{3}{4}$ = (   )

b. $\frac{25}{250}$ = (   )

c. $\frac{4}{5}$ = (   )

d. $\frac{1}{4}$ = (   )

65. To change a decimal to a common fraction use the number expressed in the decimal fraction as the numerator and the number represented by the decimal place as the denominator.

Example: Change 0.5, 0.04 to fractions.

$$0.5 = \frac{5}{10} = \frac{1}{2}$$

$$0.04 = \frac{4}{100} = \frac{1}{25}$$

66. Change the following decimals to fractions.

a. 0.05 = (   )

b. .33 = (   )

c. 0.2 = (   )

SECTION D - CONVERSION OF MEASUREMENTS

Having completed the review of decimals in Section C, you are now ready to study the conversion of measurement units.

67. For all practical purposes, a milliliter is equal to a cubic centimeter.

One hundred ml. equals (   ) cc.

68. 2.5 ml. equals (   ) cc.; 20.3 cc. equals (   ) ml.

69. 3.1 cc. equals (   ) ml.; 3.75 ml. equals (   ) cc.

70. One gram equals 1,000 milligrams. To convert grams to milligrams, move the decimal point three places to the right.

1.1 gram equals 1,100 milligrams. 2.1 grams equals (   ) milligrams.

71. To convert grams to milligrams, multiply the gram weight by 1000. However, the simplest way to convert grams to milligrams is to move the decimal point (   ) places to the right.

72. Move the decimal three places to the right.

3.1 Gm. equals (   ) mg.

73. Convert the following:

4.12 Gm. equals (   ) mg.

1.12 Gm. equals (   ) mg.

28.1203 Gm. equals (   ) mg.

74. Move the decimal point three places to the left to convert milligrams to grams. Example: 1100 mg. equals 1.1 Gm.

3100 mg. equals (   ) Gm.

75. Move the decimal point three places to the left.

2100 mg. equals (   ) Gm.

76. 4120 mg. equals (   ) Gm.; 1120 mg. equals (   ) Gm.;
3 mg. equals (   ) Gm.

77. To convert grams to milligrams, move the decimal point three places to the (   ).

To convert milligrams to grams, move the decimal point three places to the (   ).

78. Liters, as you recall, are larger than milliliters. To convert liters to milliliters, move the decimal point three places to the right. Example: 1.1L becomes 1100 ml. when the decimal point is moved three places to the right.

2.1 L. equals (   )ml.

79. Move the decimal three places to the right:

2.5 L. equals (   )ml.

80. Solve these problems:

8.12 L. equals (   ) ml.

3.12 L. equals (   ) ml.

21.12 L. equals (   ) ml.

81. Move the decimal point three places to the left to convert milliliters to liters. Example: 1100 ml. equals 1.1 L. when the decimal is moved three places to the left.

2600 ml. equals (   ) L.

82. Move the decimal point three places to the left.

4100 ml. equals (   ) L.

83. Solve the following:

6750 ml. equals (   ) L.

2175 ml. equals (   ) L.

43130 ml. equals (   ) L.

84. When converting grams to milligrams, move the decimal point three places to the (   ).

85. When converting milligrams to grams, move the decimal point three places to the (   ).

86. When converting liters to milliliters, move the decimal point three places to the (   ).

87. When converting milliliters to liters, move the decimal point three places to the (   ).

88. Convert the following:

5. 12 Gm. equals (   ) mg.

22. 6 mg. equals (   ) Gm.

105. 2 L. equals (   ) ml.

10. 5 ml. equals (   ) L.

89. Go on to Section E and take the review test.

SECTION E - REVIEW TEST

Answer the following questions. Then check your answers with the key in Section G.

1. The primary units of measurements in the metric system are (   ), (   ), and (   ).

2. The primary unit in the metric system used to measure volume is the (   ).

3. The primary unit in the metric system used to measure weight is the (   ).

4. The primary unit in the metric system used to measure length is the (   ).

5. Beside each of the following write the abbreviation.

   a. cubic centimeter (   ).

   b. milliliter (   ).

   c. milligram (   ).

   d. liter (   ).

   e. gram (   ).

6. The prefix meaning 1,000 is (   ).

7. The prefix meaning .001 or 1/1,000 is (   ).

8. The prefix meaning 01 or 1/100 is (   ).

9. 3,000 mg. = (   ) Gm.

10. 150 cc. is equal in volume to (   ) milliliters.

11. 325 mg. is equal to (   ) Gm.

12. 5 liters is equivalent to (   ) cc.

13. ( ) Gm. is the same as 1 mg.

14. The centimeter measures ( ); the milliliter measures ( )

15. 0.065 L. is equivalent to ( ) ml.

16. Convert the following:

   a. 0.25 Gm. to mg. ( )

   b. 1.5 Gm. to mg. ( )

   c. 0.03 Gm. to mg. ( )

   d. 60 mg. to Gm. ( )

   e. 5 mg. to Gm. ( )

   f. 2 cc. to L. ( )

   g. 85 cc. to L. ( )

   h. 1,500 cc. to L. ( )

   i. 0.3 L. to cc. ( )

17. Solve the following problems.

   a. If the doctor orders 0.5 Gm., and the label on the container reads "250 mg." the dosage should be ( ) tablets.

   b. If the doctor orders 500 mg. and the label on the container reads "250 mg." you should administer ( ) tablets.

   c. If the doctor orders 50 mg. and the label on the container reads "50 mg./cc." you should administer ( ) cc.

   d. If the doctor orders 25 mg. and the label on the container reads "50 mg./cc." you should administer ( ) cc.

SECTION F- CONFIRMATION

1. metric

2. grams, meters, liters

3. gram; liter; meter

4. weight

5. meters

6. meters

7. gram, meter

8. liters

9. liter

10. grams

11. meters

12. liters

13. 4 grams; 8 liters; 9 meters

14. 5.5 grams; 3.25 meters; 4.75 liters

15. grams; meters; liters

16. No response

17. 12 Gm.

18. 2M.

19. 1 L.

20. 200 L.; 17M.; 16 Gm.

21. No response

22. 12 mg.

23. No response

24. a. .35
    b. 2.3
    c. 1.8
    d. .3
    e. 1.2
    f. .45

25. 1 cm.; 4 cc.

26. 500 cm.; 400 cc.

27. 200 ml.

28. 4 ml.

29. M.; Gm.; L.; cc.; ml.; mg.; cm.

30. a. 15 cc.
    b. 10 Gm.
    c. 9 mg.
    d. 5 L.
    e. 1 cc.
    f. 17 ml.
    g. 14 cm.

31. kilo

32. are; are not

33. kilometers

34. 1,000

35. 1,000

36. 1,000; .001

37. kilo

38. milli

39. equal to (or same as)

40. 5cc.; 8 cm.

41. No response

42. 2.5 Gm.
    1000
    2500.0 = 2500 mg.

43. .85

44. a. .5 grams
    b. 2,000
    c. 5,000
    d. 35
    e. .25
    f. 180,000
    g. .42
    h. 3,500
    i. 500,000
    j. 4.5
    k. 100,000
    l. .025
    m. 3,500
    n. .0016

45. a. 1
    b. 2
    c. 1 1/2
    d. 4
    e. 1/2

46. a. 6
    b. 1
    c. 5
    d. 2
    e. 4
    f. 3

47. a. 1,000
    b. 1,000
    c. .01
    d. .001
    e. 1 ml
    f. 750 mg.
    g. 250 mg.
    h. 40 mg.
    i. 1,500 mg.
    j. 600 mg.
    k. .1 Gm.
    l. .06 Gm.
    m. .75 Gm.
    n. .45 Gm.
    o. .005 Gm.
    p. 1,200 cc.
    q. 300 cc.
    r. 20 cc.
    s. 630 cc.
    t. .002 L.
    u. .35 L.
    v. .02 L.
    w. .7 L.
    x. .25 L.
    y. 1
    z. 2

48. No response

49. a. 0.2

50. 0.04

51. 0.12

52. No response

53. a. 12
    b. 11.25

54. No response

55. a. .01
    b. 3.25

56. No response

57. .1, 100, 10,000

58. .005, 5, 500

59. .045, 45, 4500

60. No response

61. No response

62. a. 14.55
    b. 162.5

63. No response

64. a. 75
    b. .1
    c. .8
    d. .25

65. No response

66. a. 1/20
    b. 1/3
    c. 1/5

67. 100 cc.

68. 2.5 cc.; 20.3 ml.

69. 3.1 ml.; 3.75 cc.

70. 2100

71. three

72. 3100

73. 3120; 1120; 28120.3

74. 3.1

75. 2.1

76. 4.12;1.12; .003

77. right; left

78. 2100

79. 2500

80. 8120; 3120; 21,120

81. 2.6

82. 4.1

83. 6.75; 2.175; 43.13

84. right

85. left

86. right

87. left

88. 5120; .0226; 105,200; .0105

SECTION G - ANSWERS TO REVIEW TEST

1. meter; liter; gram

2. liter

3. gram

4. meter

5. a - cc.; b - ml.; c - mg.; d - L.; e - Gm.

6. kilo

7. milli

8. centi

9. 3. Gm.

10. 150 ml.

11. .325 Gm.

12. 5,000

13. .001

14. length - volume

15. 65 ml.

16. a - 250 mg.; b - 1500 mg.; c - 30 mg.; d - .060 Gm.; e - .005 Gm.; f - .002L
g - .085L; h - 1.5L; i - 300 cc.

17. a - 2; b - 2; c - 1; d - 1/2

REFERENCE

AFM 160-34, pp. 5-8 - 5-10

WOOKBOOK 3ABR90230-VI-1

DEPARTMENT OF NURSING

MEDICAL SERVICE SPECIALIST

10-11
Block VI

THE PATIENT WITH MENTAL HEALTH DISORDERS

July 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
SHEPPARD AIR FORCE BASE, TEXAS

Designed For ATC Course Use

DO NOT USE ON THE JOB

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

WB 3ABR90230-VI-1
July 1975

THE PATIENT WITH MENTAL HEALTH DISORDERS

OBJECTIVES

1. Select terms and principles related to the psychiatric patient.

2. Select basic patient needs and nursing care approaches for the mental health patient.

3. Given appropriate equipment and instructor guidance correctly apply restraining devices to a simulated patient (peer). Sixty-five per cent of the items on checklist 3ABR90230-IV-1c must be accomplished.

INTRODUCTION

Patients with mental disorders are not uncommon in Air Force hospitals; although with proper screening prior to induction, the military ratio of 1:10 is less than the civilian ratio of 1:7. This indicates that 1 of 10 military people will need psychiatric help during their lifetime. This ratio implies the "need" but not necessarily the acknowledgement or acceptance of help. As you can see from the statistics, people with mental disorders are in abundance. They may be patients within the confines of a hospital; they may be neighbors of yours; or they may, in fact, be members of your own family.

You will be leaving this school as a medical service specialist. Because of what you have learned in the academic portion of this course and what you have done in the performance phase of this course, you are almost ready to go to your various assignments to care for patients. The mentally disturbed will be part of this patient load. Take the case of a 15 year old boy who is paralyzed from the waist down because his brother picked up a gun one day and shot him in the back. Will he hate his brother because he has been crippled for the rest of his life? How will he react to his father who bought the gun? Will he turn to the gun - - using it to harm others as it has harmed him? Will he hate all people who are associated with fire arms -- even police? He may be your patient! Is he on a psychiatric unit with a lock on the door? No, he will probably be on a surgical ward recovering from his injury. In addition to the physical care that you must give, what kind of support will you give to the emotional wound which exists? Will he be discharged from the hospital or will he be transferred to a psychiatric unit? This will be one of the challenges you will encounter as a Medical Service Specialist. Can you meet this challenge?

INFORMATION

SELECTED TERMS AND PRINCIPLES

There are a number of words and phrases associated with mental health care which you should understand and be able to use correctly, for several reasons:

You will encounter them in your study readings frequently.

You will be able to speak more knowledgeable with physicians and other nursing team members.

Your observation and reporting of patient behavior will be more accurate and meaningful.

This supersedes SW 3ABR90230-IV-4, Jan 75

As each term is discussed fill in the blanks in the left-hand column by selecting the correct term to complete the definition from the list of words in the right-hand column.

1. ____________________ - any disorder of the mind which adversely affects a persons thinking, acting, feeling or physical well being.

2. ____________________ - actions that occur in response to a stimulus, can be observed by our conduct.

3. ____________________ - self understanding or self awareness.

4. ____________________ - a comfortable, understanding relationship between two or more people.

5. ____________________ - confusion as to time, place or identity.

6. ____________________ - a marked deviation from normal behavior in which there is a break with reality.

7. ____________________ - no break with reality minor abnormalities which do not incapacitiate a patient, i.e. anxiety.

8. ____________________ - seeing, feeling or hearing something that is not there.

9. ____________________ - seeing, feeling or hearing something that is there but misinterpreting what is seen, felt or heard.

10. ____________________ - a fixed false belief.

11. ____________________ - a persistent feeling.

12. ____________________ - a retreat from the world of reality.

13. ____________________ - mistrust without cause.

14. ____________________ - a persistent feeling of sadness.

15. ____________________ - a state of physical or mental overactivity.

Insight
Disorientation
Delusion
Mental Illness
Rapport
Excitement
Withdrawal
Behavior
Neurosis
Illusion
Suspicion
Depression
Psychosis
Hallucination
Anxiety

PERSONALITY DEVELOPMENT FACTORS

1. Personality -

a. Heredity

b. Environment

2. Ego Defense Mechanisms (EDM)

a. Characteristics

b. Examples

(1) Rationalization -

Example:

(2) Repression -

Example:

(3) Identification -

Example:

(4) Displacement -

Example:

(5) Compensation -

Example:

(6) Regression -

Example:

(7) Projection -

Example:

(8) Fantasy -

Example:

(9) Conversion -

Example:

(10) Sublimation -

Example:

SELECTED DIAGNOSTIC TERMS

1. Psychosis -

a. Characteristics

b. Causes

2. Neurosis -

SELECTED BASIC PATIENT NEEDS AND NURSING CARE APPROACHES FOR THE MENTAL HEALTH PATIENT

1. Observing and reporting

    a. Observing -

Patients frequently avoid, cannot, or will not discuss thoughts and feelings, especially if thoughts are disturbing or he feels people won't understand.

With lack of communication, the physician must get information from written observations of staff. Helps to plan treatment.

The way a patient acts and his appearance indicates his condition. The following are examples of observing and describing behavior.

(1) Appearance -

542

(2) Sociability -

(3) Behavior -

(4) Emotional Reaction -

(5) Speech -

(6) Body complaints -

(7) Sleep -

(8) Appetite

574

(9) Elimination -

b. Reporting

2. Reportable observations (needs) and approaches

a. Anxiety -

APPROACHES:

b. Withdrawn -

APPROACHES:

c. Depression

APPROACHES:

e. Excited -

APPROACHES:

f. Alcoholism and drug addiction -

APPROACHES:

APPLYING RESTRAINING DEVICES

1. Types

2. Uses

Given appropriate equipment and with instructor guidance you will correctly apply restraining devices to a simulated patient (peer). Sixty-five per cent of the items on checklist 3ABR90230-VI-1c must be accomplished.

1. Instructors will demonstrate the proper use of restraints during the first portion of lab.

2. The checklists on the following pages will be used during the practice lab.

NOTES

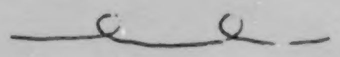
PROCEDURE FOR APPLYING A LEATHER RESTRAINT

1. Gather equipment
    a. Wrist cuffs - 2
    b. Ankle cuffs - 2
    c. Straps - 1 long, 1 short
    d. Padding (ABD pads)
    e. Restraint key
2. Pad wrist cuffs with ABD pads.
3. Apply wrist cuffs with bracket on medial aspect of arm.
4. Insure cuffs are loose enough so circulation is not impaired.
5. Place long strap through cuff brackets, secure loosely and lock to appropriate portion of bed, bed post or frame.
6. Pad ankle cuffs.
7. Apply ankle cuffs with bracket on medial aspect of ankle.
8. Insure cuffs are loose enough so circulation is not impaired.
9. Place short strap through brackets of cuffs, secure to springs of bed.
10. Check restraints for tightness and security.

GO NO FURTHER UNTIL INSTRUCTOR HAS CHECKED YOUR WORK

PROCEDURE FOR APPLYING A CLOVEHITCH

1. Gather equipment
    a. Stockinette
    b. Roller gauze may be used
2. Use clove hitch knot so restraint will not tighten through movement after application.
3. Fold stockinette with 2 loops in opposite directions, i.e.



4. Pick up stockinette, bringing loops together, place extremity through both loops.
5. Tighten to desired size by pulling ends in opposite directions.
6. Tie ends to bed allowing appropriate amount of freedom of movement for patient's condition.

7. Repeat steps for other extremities.

8. Check restraints for tightness and security.

GO NO FURTHER UNTIL INSTRUCTOR HAS CHECKED YOUR WORK

PROCEDURE FOR APPLYING A POSEY BELT

1. Gather equipment
   a. Posey belt
   b. Restraining straps
2. Apply Posey belt around the patient's waist and lock in place.
3. Ensure belt is not too tight, it might cut off circulation.
4. Secure restraining straps to bed frame.
5. Ensure straps are out of patient's reach.
6. Check restraints for tightness and security.

GO NO FURTHER UNTIL INSTRUCTOR HAS CHECKED YOUR WORK

STUDY QUESTIONS

1. The sum total of what characterizes you as an individual is knows as ____________ ______________________________.

2. Two major factors which determine personality are ______________________________ and ______________________________.

3. A psychosis is characterized by ______________________________ while a neurosis is characterized by ______________________________.

4. An illusion is seeing, feeling or hearing something but ______________________________ what is seen, felt or heard.

5. A fixed false belief is called a ______________________________.

6. A ______________________________ is seeing, feeling or hearing something that is not actually there.

7. Any disorder of the mind which adversely affects a person's thinking, feeling or physical well-being defines ______________________________.

8. Insight allows you to ______________________________ yourself.

9. Withdrawal is ______________________________ from the world of reality.

10. Mistrust without cause is referred to as ______________________________.

11. A state of physical or mental ________________________ is known as excitement.

12. An Ego Defense Mechanism (EDM) is a method the mind uses to protect itself from

____________________________________.

13. Frequent contact is an important nursing approach for three of the five behavior patterns discussed. Name three behavior patterns.

14. Simple tasks, within the patient's abilities, are also approaches for three behavior patterns discussed. Name them.

15. Which behavior pattern would be most seriously affected by whispered conversations among personnel?

16. An excited patient needs what type of activities?

17. Which behavior pattern is most likely to commit suicide?

18. Name 5 of the 9 examples given of observing and describing behavior.

19. Which patient is the most likely to be verbally abusive to the personnel?

20. Transferring emotions from one person or thing to another is the Ego Defense Mechanism of ____.

ATC-SHEPPARD AFB TEX. 76-1[illegible]

STUDY GUIDE AND WORKBOOK 3ABR90230-VI-2

DEPARTMENT OF NURSING

MEDICAL SERVICE SPECIALIST

THE PATIENT WITH CIRCULATORY DISORDERS

July 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
SHEPPARD AIR FORCE BASE, TEXAS

Designed For ATC Course Use

DO NOT USE ON THE JOB

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

SW 3ABR90230-VI-2
July 1975

THE PATIENT WITH CIRCULATORY DISORDERS

OBJECTIVE

Selection of a sodium, calorie, and cholesterol restricted diet.

INTRODUCTION

The human heart is a four chambered muscular organ, somewhat larger than a closed fist. This hollow muscular organ begins its work within the body of a child's mother and continues its work of supplying the body with blood until death.

The heart pumps over 10,000 times in 24 hours; it forces blood thru 100,000 miles of arteries and veins and rests only 3/10 of a second between contractions.

It is important for you to understand the normal workload of the cardiovascular system so that you can better understand what the added stress of cardiac disease does to the heart. With this knowledge you will be better prepared to provide your cardiovascular patients with nursing care that will make them more comfortable and speed them toward recovery. Remember - the doctor only pronounces a patient dead when the patient's heart fails to beat any longer. You can be very instrumental in prolonging the "heart beats" of many patients during your career as a Medical Service Specialist.

STUDY ASSIGNMENT

1. Read and complete all SW exercises except exercise 7 prior to classroom discussion. The satisfactory completion of SW exercises is mandatory for the satisfactory completion of Block IV.

2. Read AFM 160-34, Medical Airman's Manual, chapter 2, paragraphs 2-14 and 2-15 prior to class discussion.

3. Read Circulatory Disorder section of Programmed Terminology Text prior to class discussion.

INFORMATION

ANATOMY AND PHYSIOLOGY

Cardiovascular System

1. Identify the major structures and functions of the Cardiovascular System.

a. Heart. The hollow, muscular, contractile organ that is the center of the circulatory system. It is located between the lungs in the lower medial portion of the thoracic cavity.

This supersedes SW 3ABR90230-IV-1, May 1975

b. Tissue Layers of the heart. The heart is made up of three principal tissue layers. Each tissue layer has a specific function that is necessary for the normal function of the heart.

(1) Endocardium. The tissue layer that makes up the lining of the heart and the heart valves. Its smooth surface lessens friction and helps prevent injury of the blood cells.

(2) Myocardium. The thickest layer of the heart. It is made up of muscular tissue that contracts rhythmically to force the blood throughout the vascular system.

(3) Epicardium. This tissue layer provides the needed support and protection to the muscular layer of tissue. It is the outermost layer of the heart wall.

(4) Pericardium. This thin tissue makes up a "sac," known as the "Pericardial Sac," that completely surrounds the heart. It contains fluid that minimizes the hearts' friction and allows it to move freely with each contraction.

Exercise 1

Using the information from sections a and b, complete the following tasks.

1. Complete the following statements.

a. The ______________ reduces the friction of the blood cells and makes up the the heart valves.

b. The "sac" that surrounds the heart and reduces its friction is called the Pericardial Sac. The tissue that makes up the sac is called the ________________.

c. The muscular layer of the heart is called the ________________________.

d. The _____________ provides support to the innermost tissue layers.

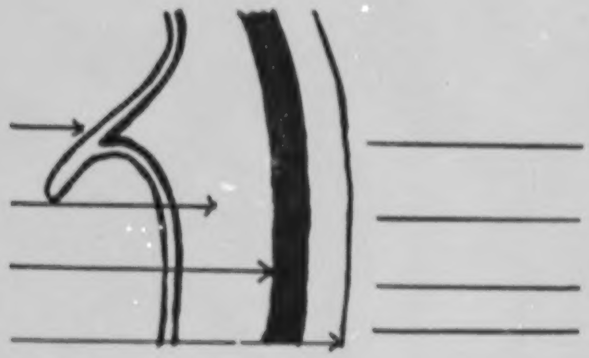
2. Identify the tissue layers indicated on the schematic.

a. Innermost layer of tissue

b. Thickest layer of tissue

c. Outermost layer of tissue

d. Tissue that surrounds the heart



c. Chambers of the heart. The heart is made of four specific chambers. Each chamber has a particular function in the circulation of blood.

(1) Right Atrium. Receives the deoxygenated blood from the body.

(2) Right Ventricle. Receives the deoxygenated blood from the Right Atrium and forces it out of the heart to the lungs.

(3) Left Atrium. Receives the oxygenated blood from the lungs.

(4) Left Ventricle. Receives the oxygenated blood from the Left Atrium and forces it out to all parts of the body.

Exercise 2

Using the information in section c, complete the following statements.

1. The Right Atrium receives __________ blood from the __________.
2. The Right Ventricle pumps __________ blood to the __________.
3. The Left Atrium receives __________ blood from the __________.
4. The Left Ventricle pumps __________ blood to the __________.

d. Valves of the heart. The heart has four valves. These valves are essential in the circulation of the blood.

(1) Tricuspid valve. Located between the Right Atrium and the Right Ventricle. This valve prevents the back flow of deoxygenated blood from the Right Ventricle during its period of contraction.

(2) Pulmonary Semilunar Valve. Located between the pulmonary artery and the Right Ventricle to prevent the back flow of blood during right ventricle relaxation.

(3) Bicuspid Valve. Located between the Left Atrium and the Left Ventricle to prevent the back flow of blood from the Left Ventricle during the period of Left Ventricle contraction. The biscuspid is also referred to as the mitral valve.

(4) Aortic Semilunar Valve. Located between the Aorta and the Left Ventricle to prevent the back flow of blood during Left Ventricle relaxation.

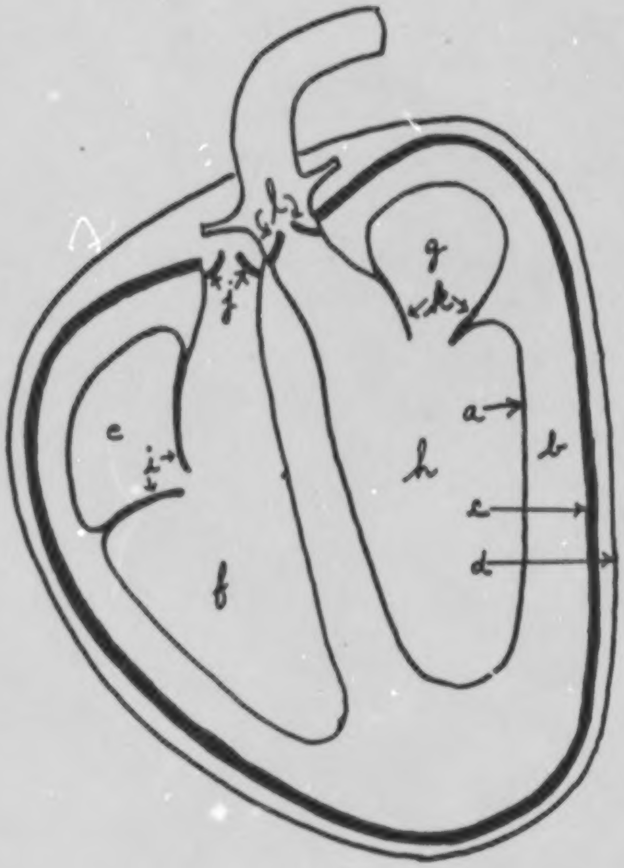
Exercise 3

Using the information in section d, complete the following statements and tasks.

1. The tricuspid valve is located between the __________ and the __________.
2. The __________ valve is located between the right ventricle and the pulmonary artery.
3. The ______ ______ valve prevents the back flow of blood during left ventricle contraction.
4. The __________ valve is located between the left ventricle and the aorta.
5. The purpose of heart valves is to prevent the __________ of blood from one chamber to another.

Exercise 4

Using the information in sections a, b, and c identify the indicated heart structures on the schematic. Print the names of the structure as indicated by the letters.



TISSUE LAYERS OF THE HEART

a.

b.

c.

d.

CHAMBERS OF THE HEART

e.

f.

g.

h.

VALVES OF THE HEART

i.

j.

k.

l.

e. Major blood vessels of the cardiovascular system

(1) Arteries

(a) Pulmonary artery. The artery that carries the deoxygenated blood away from the right ventricle to the lungs. The pulmonary artery divides and becomes the right and left pulmonary arteries carrying the blood to the right and left lungs where the blood is reoxygenated.

(b) Aorta. The aorta carries the oxygenated blood away from the left ventricle. The walls of the aorta are thick and very elastic to allow it to withstand the force exerted by the pumping of the left ventricle.

(c) Coronary Arteries. The right and left coronary arteries are the first branches off the ascending aorta. These arteries supply the heart tissue with oxygenated blood.

(d) Innominate Artery. The first branch off the aortic arch, it divides becoming the right subclavian and the right carotid arteries.

1 Right subclavian artery. The right subclavian artery carries the oxygenated blood to the right shoulder and arm.

2 Right Carotid Artery. This artery carries the oxygenated blood to the right side of the neck, face, and head.

(e) Left Common Carotid Artery. This artery is the second branch off the aortic arch. It carries the oxygenated blood to the left side of the neck, face, and head.

(f) Left Subclavian Artery. The third branch off the aortic arch. It carries the oxygenated blood to the left shoulder and arm.

(g) Descending Aorta. This portion of the aorta carries oxygenated blood down into the thoracic and abdominal areas. It divides into many smaller arteries that supply the blood to the tissues and organs in the lower portion of the body.

(2) Veins

(a) Vena Cava. The vena cava empties the deoxygenated blood back into the right atrium. It is divided into superior and inferior portions.

1 Superior Vena Cava. The superior vena cava carries the deoxygenated blood back to the heart from the upper portion of the body.

2 Inferior Vena Cava. The inferior vena cava carries the deoxygenated blood back to the heart from the lower portion of the body.

(b) Pulmonary veins. There are four pulmonary veins. Two from the left lung and two from the right lung. These veins carry oxygenated blood from the lungs to the left atrium of the heart. They are the only veins which carry oxygenated blood.

Exercise 5

Using the information in section e, complete the following statements:

1. Arteries carry blood (to/from) the heart. Circle the correct answer.

2. The ____________ arteries supply the heart tissue with oxygenated blood.

3. The innominate artery is the first branch off the aortic arch. It branches and becomes the __________________ and ______________ arteries.

4. Blood vessels that carry blood toward the heart are called __________________.

5. There are _____________ pulmonary veins.

6. The ________________ carries deoxygenated blood from the upper portion of the body back to the heart.

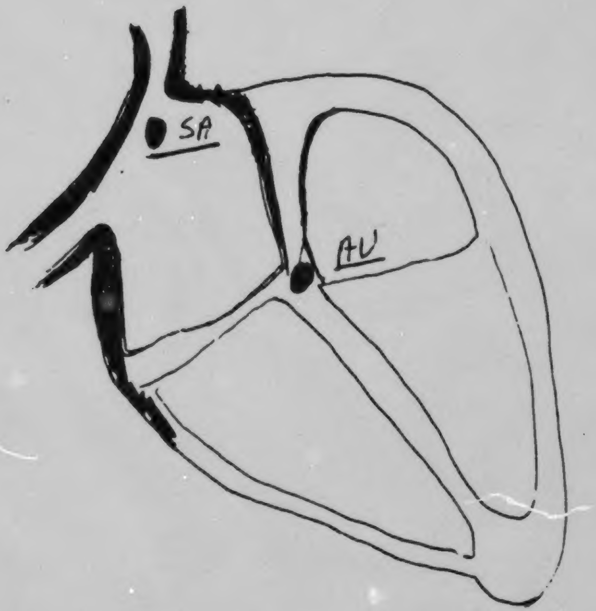
7. The only veins which carry oxygenated blood are the __________________.

f. Conduction System. There are special bundles of unique tissue located in the heart. This tissue is a combination of muscle and nerve tissue. These bundles are responsible for producing the electrical impulses that cause the cardiac tissue to contract. This is the actual physiology behind the heart beat.

1. S.A. Node -

2. A.V. Node -

3. Heart Block -



Exercise 6

1. Correctly label the indicated structures on the schematic.

Arteries

a.

b.

c.

d.

e.

f.

g.

h.

i.

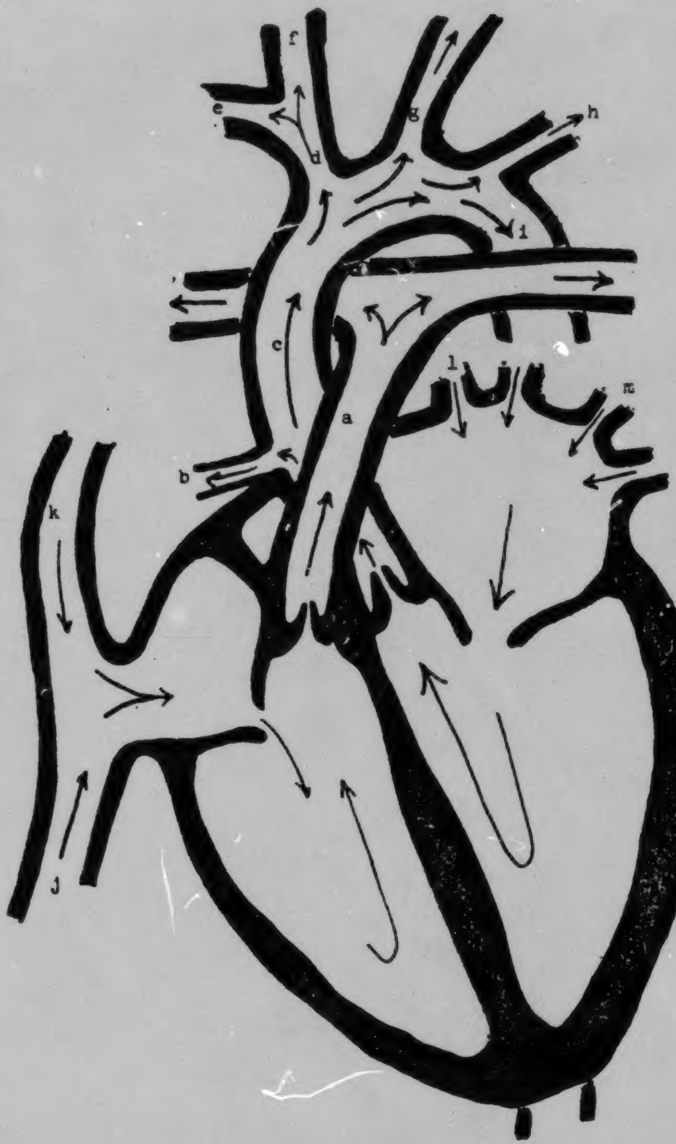
Veins

j.

k.

l.

m.

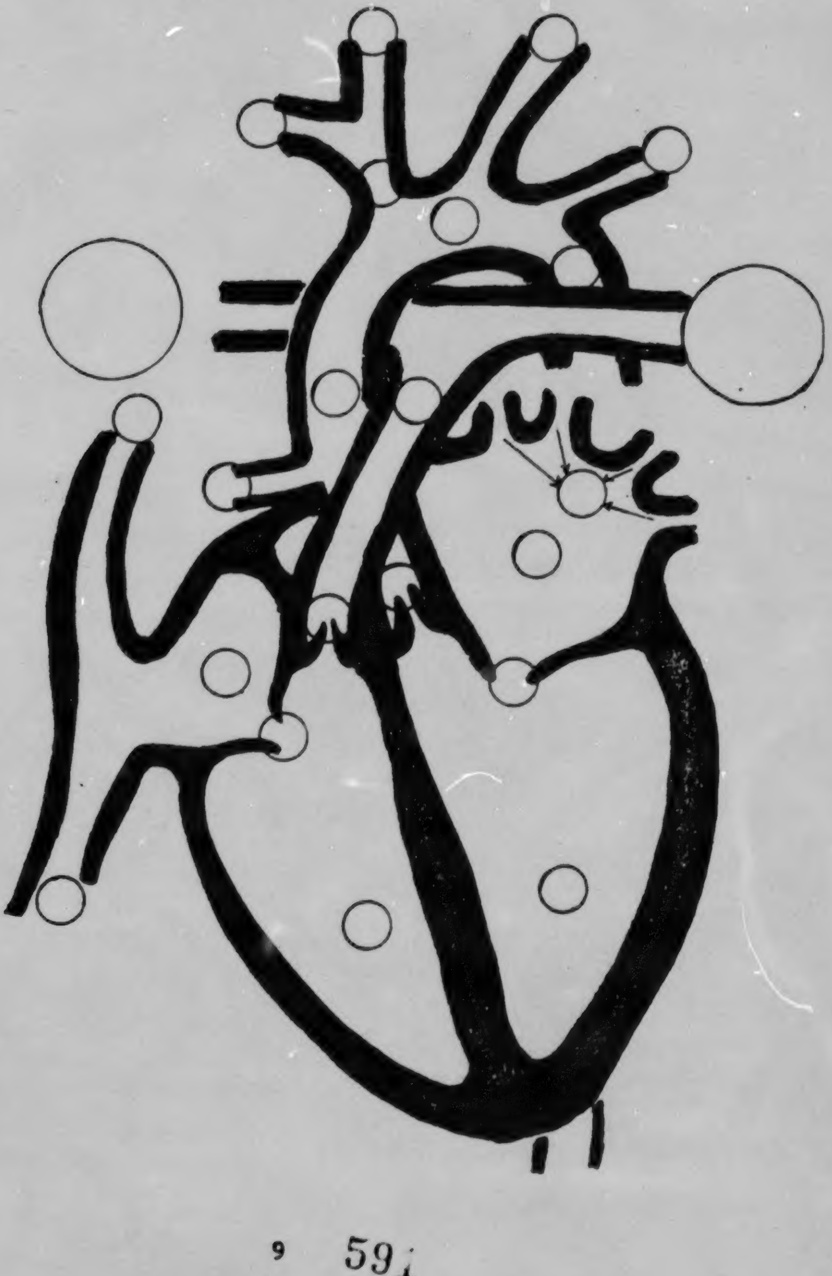

f
e
g
h
d
i
c
a
b
l
m
k
j

Exercise 7

1. Cardiovascular circulation. This exercise will be completed with the aid of the instructor during class.

Trace the blood flow identifying each structure in the sequence of blood flow by numbering the circles in sequence and identifying the structure and listing it with the corresponding number listed.

a.
b.
c.
d.
e.
f.
g.
h.
i.
j.
k.
l.
m.
n.
o.
p.
q.
r.
s.
t.
u.



Human Blood

Elements

Erythrocytes

Leukocytes

Platelets (Thrombocytes)

Plasma

Lymphatic System

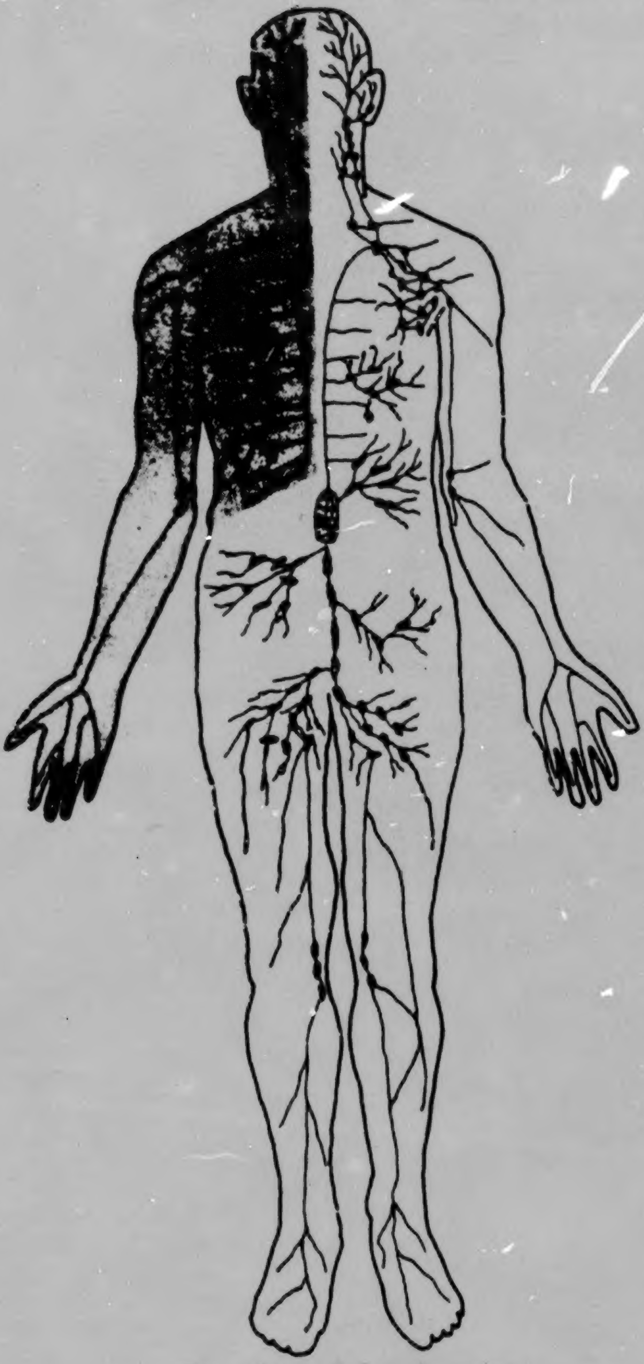
Identify the major structures and functions of the Lymphatic System.

This system of the body conveys tissue fluids back to the blood stream. It is made up of vessels, nodes, and fluid. It is important to the body's circulatory system because it is responsible for draining the fluids from the body tissue, removing the bacteria and other products from the tissue fluids. The lymphatic system also has the task of manufacturing lymphocytes and monocytes (types of white cells) to destroy the bacteria within the body.

1. Lymph

2. Lymph Vessels

3. Lymph Nodes



Examples of lymph nodes and vessels

Close-up of a lymph vessel

Exercise 8

Complete the following statements using the information given in Section 2.

1. The lymphatic fluid is moved along the lymph vessels by ______________________________.

2. Lymph vessels begin as ______________________ and terminate by emptying into the ____________________.

3. Lymph is produced in the _________________________.

4. Lymph nodes produce _____________________ and ____________________, and keep particles of waste matter and bacteria out of the _____________.

5. Lymph vessels have ________________ that prevent the backflow of ______________________.

BASIC CARE PRINCIPLES

OBJECTIVE

Select basic patient needs and nursing care approaches for the patient with circulatory disorders.

INTRODUCTION

The heart is a marvelous structure which serves its average owner well over a period of many years. Fortunately, it is not like the average employee of today who keeps striking for better working conditions. It just works on around the clock without vacation for a complete lifetime. If things are going well, it can slow down and take it easy for about 8 hours of every day. But if its owner generally takes poor care of himself by overeating, overworking, smoking heavity, or any number of other health damaging practices, the heart must work harder, straining its capacity and being damaged by this continuing strain.

In some situations damaged hearts can be surgically repaired. This, however, is the exception rather than the rule. Usually the patient is forced to live with altered heart function as wear and aging occur.

This section is designed to prepare you to care for a patient after he has had a heart attack or a patient who has had to make some adjustments in his daily living due to a damaged heart.

INFORMATION

DISORDERS OF THE HEART

Congenital Heart Defects

Angina Pectoris

Myocardial Infarction

Hypertension

Congestive Heart Failure

Signs and Symptoms

Symptoms tell us much about the patient's condition. They provide a means by which we measure the amount of damage which has occurred. When the symptoms decrease or disappear, activity will be progressively increased and discharge from the hospital can be anticipated. We will focus our discussion on a patient with a myocardial infarction, or coronary thrombosis. The nursing care approaches for other cardic disorders are very similar to those necessary in the care of the patient with an M.I.

In order to assist the patient when he has a need for emergency medical care, you should be able to recognize a serious symptom and notify the nurse or physician. It is then the doctor's responsibility to provide emergency medical care.

Chest Pain

Dyspnea and Cyanosis

Overwhelming Anxiety and fear of death

Restlessness

DELAYED SYMPTOMS. Some symptoms take longer to appear and indicate the development of serious complications in the cardiac patient. The pulse is usually slow during the first 48 hours after an acute myocardial infarction, when it may become rapid, weak, and thready. The blood pressure may fall to shock levels if the body cannot recover and compensate for the damaged heart tissue. Elevation of the temperature usually appears within 48 hours, apparently as the result of necrosis of heart tissue.

Signs of Shock

Arrhythmias

Emboli (plural - embolus, singular)

Ventricular Rupture

Congestive Heart Failure

Selected Needs and Approaches

Effective nursing care is not only planned around what we see (signs and symptoms), what we are told (doctor's orders and nurses" notes), but also around what we may anticipate. Therefore, you must be observant and alert. The cardiac patient may seem to be getting well, then develop complications. Most survive the first few days with diminishing symptoms, then may slowly decline or improve.

List cardiac precaution needs in space provided below.

a.

b.

c.

d.

e.

f.

g.

h.

i.

j.

k.

l.

m.

n.

o.

p.

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Diet

Selection of a sodium restricted or a sodium and calorie restricted diet.

Some of the most common types of therapeutic diets prescribed for patients with cardiovascular diseases are those which are restricted in sodium, cholesterol, and calorie content.

The Medical Service Specialist should be able to recognize basic food items and normal sized portions which will be included on his patient's diet. The following lists of foods may be used as a guide in preparing you to select appropriate food items. For more information refer to AFM 160-8, Applied Clinical Nutrition.

SODIUM RESTRICTED ONLY. Select foods which have not been prepared with salt. Do not serve salt on the tray.

ALLOWED	AVOID
Milk -- whole and nonfat reconstituted dry milk evaporated milk	Milk -- buttermilk
Eggs -- one per day cooked	Eggs -- raw eggs
Meat -- 6 oz cooked weight beef, lamb, pork, veal poultry	Meat -- bacon, ham, luncheon meats, frankfurters, corned and chipped beef frozen fish fillets canned, salted or dried cod, herring, sardines, tuna, and salmon shell fish -- lobster, crab, clams, oysters, shrimp, scallops peanut butter
Cheese -- special salt free cottage or American	Cheese -- any other cheese
Potato -- white, sweet rice, macaroni, spaghetti, noodles	Potato -- frozen potato products or chips
Bread -- special sodium restricted is preferred and unlimited regular bread - 3 slices/day	Bread -- those made with salt, baking powder, soda, or commercial mixes waffles, pancakes pretzels
Cereal -- oatmeal, farina, cream of wheat puffed wheat, rice and shredded wheat	Cereal -- all other cooked or dry cereals

ALLOWED	AVOID
Vegetables -- all fresh and frozen except those on avoid list	Vegetables -- canned vegetables and juices frozen vegetables processed with sodium compounds (peas, lima beans, mixed) ALL artichokes, beet greens, beets, carrots, celery, greens, hominy, sauerkraut, spinach, and turnips.
Fruit -- all fruits, frozen, canned or raw	Fruit -- maraschino cherries, glazed, crystallized or dried fruit
Fat -- unsalted butter or margarine mayonnaise or nuts	Fat -- olives bacon salt pork commercial salad dressing
Soup -- homemade, unsalted with allowed vegetables	Soup -- commercial canned cream soup made with milk not included in allowed amounts

QUESTIONS

1. Define the following cardiac disorders:
   a. Hypertension

   b. Angina pectoris

   c. Myocardial infarction

   d. Congestive heart failure

2. Describe the chest pain felt by a patient with a myocardial infarction.

3. Why are cardiac patients placed on bed rest?

4. What can be done to prevent excess heart strain during bowel movements?

5. Name 5 types of drugs used in the treatment of cardiac patients.

6. What measures can you take to provide emotional support for a patient with a cardiac disorder?

7. What advice should the cardiac patient be given for his care after discharge from the hospital?

8. What are the two nodes that are responsible for Atrial and Ventricular contraction?

9. Name two substances that cause occlusion in the coronary arteries?

10. Why is the reduction of stress so important in the care of the cardiac patient?

PERIPHERAL VASCULAR DISORDERS

Whether decrease of arterial circulation in the extremities is gradual or sudden, and whatever the cause, the patient suffers intense and exasperating pain. It may come or go unexpectedly, or be a steady burning sensation. Vascular surgery may be indicated for some but not all patients. Some patients may be treated by surgical or chemical interruption of nerve pathways (sympathectomy). Our goals in caring for the patient are to promote maximum peripheral circulation and to prevent injury which might lead to breakdown of tissue. As in most care situations, we will also teach the patient what we are doing and why so that he can assume his own care as soon as possible.

The term Pheripheral Vascular Disorder (PVD) refers to disorders of the blood vessels which supply the extremities. Whether the disease involves the veins, arteries, lymphatics, or all of these, patients with PVDs experience a number of similar problems.

All body tissues depend on efficient functioning of arteries, veins, and lymphatics; arteries to bring blood rich with oxygen and nutrients, veins to remove waste products, and lymphatics to carry tissue fluids.

When the circulation is impaired, the body compensates by developing collateral circulation. Collateral circulation is increased by better use of existing blood vessels, as well as the development of new vessels. Collateral circulation has more opportunity to develop if the circulatory impairment develops slowly. Sudden blockage of an artery does not allow time for collateral circulation to develop. The body's ability to develop collateral circulation is greatly diminished in peripheral vascular disease.

Arteriosclerosis

Atherosclerosis

Varicose Veins

Thrombophlebitis

Phlebothrombosis

Buerger's Disease (Thromboangitis Obliterans)

Raynaud's Disease

General Signs and Symptoms

1. Ischemia

2. Coldness

3. Pallor

4. Cyanosis

5. Pain

    a. Intermittent claudication

    b. Occlusive pain

6. Trophic Changes (Skin and Nails)

7. Abnormal pulsation

Selected Needs and Approaches

In what general ways can the blood supply to an extremity be increased? How may these measures be utilized in the care of patients with PVDs?

1. Warmth

2. Environment

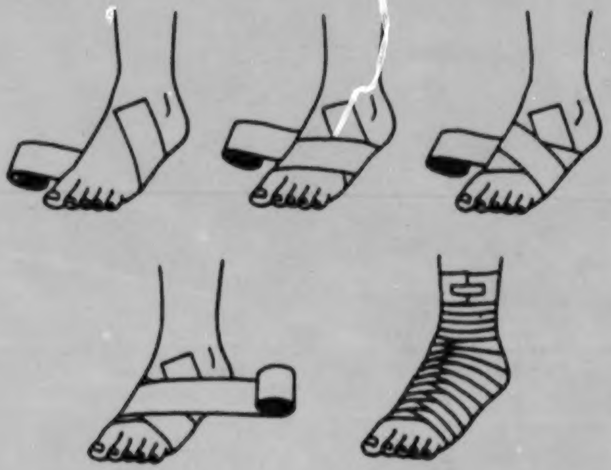
3. Exercise

4. Position

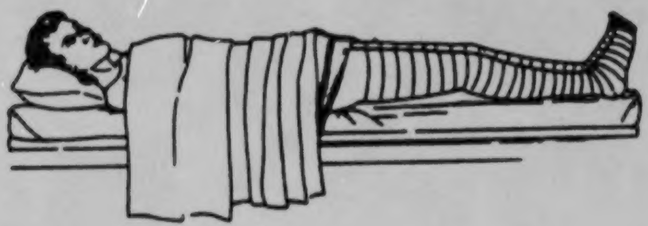
5. Avoid vasoconstriction

Ace Bandage

Beginning the ace wrap



The completed ace wrap on both lower extremities



Ace Bandage Demonstration

1. Equipment needed

    a. At least two 4-inch bandages. A smaller bandage would not provide the necessary support. A wider bandage would prove to be unmanageable.

    b. Adhesive tape 1 inch in width.

2. Purpose

    a. General

        (1) Support weak veins

        (2) Promote return of venous blood to the heart

        (3) Discourage collection of fluid in the legs

b. Specific application

(1) For cardiac patients who may experience swelling in the legs.

(2) For patients with vascular weakness.

(3) As a nursing measure of thrombophlebitis for the patient on bedrest.

3. Procedure

a. Start the bandage on the instep.

b. Take two or three anchoring turns around the instep and foot. Allow bandage to come as low as the beginning of the toes.

c. Carry bandage diagonally upward across the front of the foot, then around the ankle.

d. Continue diagonally downward across the front of the food and down under the arch (figure 8 pattern).

e. Several of the figure of 8 turns should be made, each overlapping the previous one by not more than half the bandage width.

f. When only a small portion of the heel remains out, use a pivoting style for 3 to 4 cycles to cover heel area.

g. Roll the bandage over the front of the ankle and continue a spiral wrap up the leg.

h. Attach new roll of bandage, as necessary with adhesive strips. (bandage to bandage)

i. Include knee in wrap.

j. Continue wrapping to mid-thigh.

k. Secure end portion (bandage to bandage) with tape.

l. Secure bandage over stress areas of heel and knee by applying a few 1/2 inch strips of adhesive lengthwise (never circular) along the bottom of heel, sides of ankles, and along sides and front of knee.

m. Assure appropriate pressure

(1) Snug but comfortable to patient.

(2) Even pressure throughout. The thicker the bandage at any one point, the tighter it is liable to be.

(3) There should be no wrinkles.

(4) Check toes for impairment of circulation.

QUESTIONS

1. Peripheral vascular disorders usually affect what part of the body?

2. Define collateral circulation.

3. Can the tendency toward varicose veins be inherited?

4. Define Ischemia.

5. Name four symptoms caused by ischemia.

6. What is the safest way to supply warmth to a patient with PVDs?

7. Why should you discourage the use of tobacco by a patient with a peripheral vascular disorder?

8. In what physical position should the patient with a peripheral vascular disorder be placed?

LYMPHATIC AND BLOOD DISORDERS

The purpose of this section is to acquaint the medical service specialist with some of the many diseases of the blood and lymphatic system. Four representative diseases have been chosen.

Two of these diseases are considered "neoplastic diseases" or are classified as a type of cancer. These two are leukemia and Hodgkin's disease. These diseases are eventually fatal, but increasing numbers of patients have obtained long remissions in the past decade.

The other two diseases, anemia and hemophilia are not necessarily fatal but alter a person's way of life to a considerable extent.

Before discussing specific blood disorders, it will be helpful to identify the parts of the blood.

Blood Elements

The blood is the fluid that circulates through the cardiovascular system. It carries nourishment and oxygen to the tissues and takes the waste matter and carbon dioxide away from the tissues.

The formed elements of the blood are erythrocytes (RBCs), leukocytes (WBCs), platelets (thrombocytes),and plasma (liquid portion of the blood).

Disorders

The term blood dyscrasias is often used to describe a large group of disorders affecting the blood. (Dyscrasia is derived from Greek words meaning bad and mixture.) In short, a blood disorder is a disease that normally changes the condition of the blood and/or blood producing organs. Following are three of the most common blood disorders, and one disorder of the lymphatic system.

Anemia

a. Definition

b. Cause

c. Signs/Symptoms

Leukemia

a. Definition

b. Cause

c. Types
  (1) Acute

  (2) Chronic

d. Signs/Symptoms

Hemophilia

a. Definition

b. Cause

c. Signs/Symptoms

Hodgkin's Disease

a. Definition

b. Cause

c. Signs/Symptoms

Basic Nursing Care Principles

QUESTIONS

1. White cells aid the body by

2. Plasma makes up ____% of the blood volume.

3. The ____________________ aid in the clotting of the blood.

4. Erythrocytes have two primary functions. Name them.

5. Nourishment and formed elements are carried to the tissues by the _______________.

6. A patient with a blood disorder should use which of the following:
   a. A soft bristled brush
   b. A hard bristled brush

7. What is the cause of anemia?

8. A blood disorder is a disease affecting what parts of the body?

9. Name the two types of leukemia and give a brief description of each.

10. In leukemia there is a marked increase in which of the following:
    a. Red blood cells
    b. White blood cells
    c. Platelets

11. Hemophilia is due to a reduction of what?

12. Is Hodgkin's disease a disease of the blood system or lymphatic system?

13. Why are patients with blood disorders usually discouraged?

14. What is the cause of fatigue in a patient with a blood disorder?

THE ELECTROCARDIOGRAPH

OBJECTIVE

Select basic facts and principles related to circulatory disorder diagnostic, therapeutic, and special nursing procedures.

INTRODUCTION

The Electrocardiogram (ECG) is a record of electrical changes produced during each beat of the heart. One of its most important uses is the analysis of cardiac rhythm. Recording the effect of various drugs and chemical changes in the body on the heartbeat and ECG waves provides needed diagnostic information.

While very helpful, ECG tracings do not always show heart damage soon enough or give enough information for some conditions to be diagnosed. Although a reading may appear normal, there may exist structural or functional difficulties which will have to be discovered by other means. Therefore, the ECG is an effective diagnostic tool when accompanied by such things as patient history, examination and observation and other laboratory tests.

A demonstration of the ECG will be given by your instructors. As a medical service specialist, one of your duties will be running ECGs on patients. You will be getting practical experience with the ECG machine when you go to your permanent duty station.

INSTRUCTIONS

Use the following checklist to follow the procedure as the instructor demonstrates.

1. Turn on machine to warm up (2 minutes)
2. Explain procedure to patient
3. Position the patient
4. Place limb electrodes
    a. Apply saline sponge
    b. Attach electrodes to limbs
    c. Attach patient cord to correct electrodes
5. Mark chest leads with skin marking pencil
6. Prepare machine to run a lead
    a. Check grounding of machine
    b. Center recording stylus
    c. Adjust stylus heat control
    d. Standardize machine to 10 mm

7. Run a limb lead
   a. Standardize at beginning and end of lead
   b. Lead to be 6-8 inches long
   c. Mark with Specialist's code
8. Run a chest lead
   a. Standardize at beginning and end of lead
   b. Lead to be 6-8 inches long
   c. Mark with Specialist's code
9. Remove electrodes
10. Clean patient
11. Clean electrodes with soap and water and dry
12. Mark leads with international code

APICAL/RADIAL PULSE

OBJECTIVE

Given the necessary equipment and instructor guidance, accurately measure and record the Apical/Radial pulse of a simulated patient (peer) to within a plus or minus 4 point variance of the instructor's reading of the same patient.

INTRODUCTION

Taking a radial pulse will, at times, become difficult or will be inaccurate due to such things as a cardiovascular problem or injured wrists. Measuring the apical pulse would then be indicated. You may be called on to count only the apical pulse. More often you will be asked to count radial and apical pulses. This is done so that a more precise comparison can be made.

INSTRUCTION

You will be given a chance to perform an Apical/Radial Pulse on a fellow student. The instructor will evaluate your performance and suggest ways to improve it.

1. Purposes

a. More accurate reading: An apical pulse is more accurate because it is counted for a full minute at the point of ventricular contraction.

b. Alternate method of obtaining a pulse reading: Disease or injury may make taking a radial pulse difficult or, in some cases, impossible.

c. To obtain pulse readings of infants: The extremely rapid heartbeat of infants makes obtaining an accurate radial pulse impossible.

d. Apical/Radial Pulse is used to determine presence of pulse deficit:

(1) Pulse deficit occurs when a ventricular contraction is too weak to stimulate continuing arterial contraction throughout the peripheral circulation.

(2) It indicates an overworking, but undereffective heart.

2. Equipment

a. Stethoscope

b. Alcohol sponges to clean the ear pieces of the stethoscope.

c. A watch with second hand

3. Method

a. Explain the procedure to the patient.

b. Remove or loosen clothing on the chest.

c. Locate the Point of Maximum Intensity (PMI) of the heartbeat. The PMI is that point on the chest where the heartbeat is strongest. It is usually located at the position of the 4th ECG chest lead.

d. Two Specialists will count:

(1) One will count the Radial Pulse for one full minute.

(2) One will place the stethoscope over the PMI on the chest and count the Apical Pulse for the same one full minute.

e. Record pulse in workbook.

f. Clean and replace equipment.

PATIENT'S NAME		0600	1000	1400	1800	2200
1	A					
	R					
2	A					
	R					
3	A					
	R					

REFERENCES

1. Brunner and Ferguson, Medical-Surgical Nursing
2. Johnston, Dorothy, Total Patient Care
3. Kernichi, Bullock, Matthews, Cardiovascular Nursing
4. Shaffer, Sawyer, McCluskey, Beck, Medical-Surgical Nursing
5. Smith and Gips, Care of the Adult Patient
6. Taber's Cyclopedic Medical Dictionary, 10th Edition
7. Thompson and Rosdahl, Textbook of Basic Nursing
8. AFM 160-34

CHECKLIST 3ABR90230-VI-2d

TASK ELEMENTS	POINT VALUE	SATISFACTORY UNSATISFACTORY
1. Assemble equipment	5	
a. Stethoscope		
b. Alcohol spon		
c. Watch with second hand (one for each specialist)		
2. Explain procedure to patient	20	
3. Place patient in supine position.	10	
4. Remove or loosen clothing on chest.	10	
5. Locate PMI/Locate radial pulse.	20	
6. Count radial and apical pulse simultaneously, for one minute.	20	
7. Redress patient and make him comfortable.	5	
8. Record pulse.	5	
9. Clean and replace equipment.	5	
Total	100	

Student must correctly accomplish 60% of the items on the checklist.

Instructor's signature

STUDY GUIDE AND WORKBOOK 3ABR90230-VI-3

DEPARTMENT OF NURSING

MEDICAL SERVICE SPECIALIST

THE PATIENT WITH MAXILLOFACIAL OR EENT DISORDERS

August 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
SHEPPARD AIR FORCE BASE, TEXAS

Designed For ATC Course Use

DO NOT USE ON THE JOB

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

SW 3ABR90230-VI-3
August 1975

THE PATIENT WITH MAXILLOFACIAL OR EENT DISORDERS

OBJECTIVES

a. Select terms and principles about the anatomy and physiology of the patient with maxillofacial and EENT disorders.

b. Select basic patient needs and nursing care approaches for the patient with maxillofacial and EENT disorders.

c. Select basic facts and principles related to maxillofacial and EENT diagnostic, therapeutic and special nursing procedures.

STUDY ASSIGNMENT

1. Read AFM 160-34, pp. 2-6 thru 2-8; 2-27 thru 2-29; 2-41 thru 2-43.
2. Sutton's Bedside Nursing Techniques, 2nd ed, Chapter 18, Chapter 19.
3. Review study guide and workbook.
4. Complete terminology and anatomy and physiology sections in study guide and workbook.

INTRODUCTION

Injury to the face is one of the most common injuries sustained by military personnel because of high speed transportation of automobiles and aircraft. As a Medical Service Specialist you will be caring for patients with injuries involving the face and its structures.

Sight and sound are two of our most important senses. Without the proper function of the eye and ear our ability to communicate with others is greatly reduced.

Persons of all ages suffer visual defects due to disease or injury. Blindness may result from many causes and many times it could have been prevented with total patient care. The patient with disorders of the senses deserves the best care humanly possible. You, as the Medical Service Specialist, will be called upon to administer this care. This workbook has been designed to assist you in meeting these responsibilities.

INFORMATION

TERMINOLOGY

Select the proper term for each of the definitions listed below. Refer to terminology programmed text.

Definitions

_____a. Terms, when used alone or in combination with other words pertain to the eye.

_____b. Doctor who treats diseases of the eye.

_____c. One who is trained to test or measure vision.

This supersedes SW 3ABR90230-III-3, January 1975 _____d. One who makes optical instruments.

_____e. Double vision.

_____f. Abnormal intolerance to light.

_____g. Instrument used to examine the eye.

_____h. Term used in combination with other words to signify the ear.

_____i. Instrument used to examine the ear.

_____j. Wax-like secretion found in the auditory canal.

_____k. Term used in combination with other words to signify the nose.

_____l. Nosebleed.

_____m. Difficulty in swallowing.

_____n. Small masses of lymph tissue located on walls of the pharynx.

_____o. Instrument used to examine the larynx.

_____p. Bleeding into the tissue.

_____q. Ringing in the ears.

_____r. Nostrils.

_____s. Secretion of tears.

_____t. Removal of eyeball.

_____u. Sensation of moving about in space or of having objects moving around the person. Difficulty maintaining equilibrium.

Terms

1. Epistaxis
2. Ophthalmologist
3. Diplopia
4. Dysphagia
5. Ecchymosis
6. Optometrist
7. Otoscope
8. Optometrist
9. Rhino
10. Larynogoscope
11. Photophobia
12. Oto
13. Ophthalmoscope
14. Cerumen
15. Ophthal, ocul, optic
16. Tonsils and adenoids
17. Lacrimation
18. Enucleation
19. Nares
20. Tinnitus
21. Vertigo

ANATOMY AND PHYSIOLOGY

Answer the following questions using reference books as needed. Refer to AFM 160-34, page 2-6 and 2-8.

The following list is of functions of the facial structures. Select the proper structure for each function. Label each structure listed on Figure 1.

Functions of the Facial Structures

____a. Forms the cheekbone.

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____b. Forms the upper jaw.

____c. Forms the lower jaw.

____d. Forms the bridge of the nose.

____e. Cavity within bone to equalize pressure.

Structures of the Face

1. Nasal
2. Maxilla
3. Sinus
4. Mandible
5. Zygoma

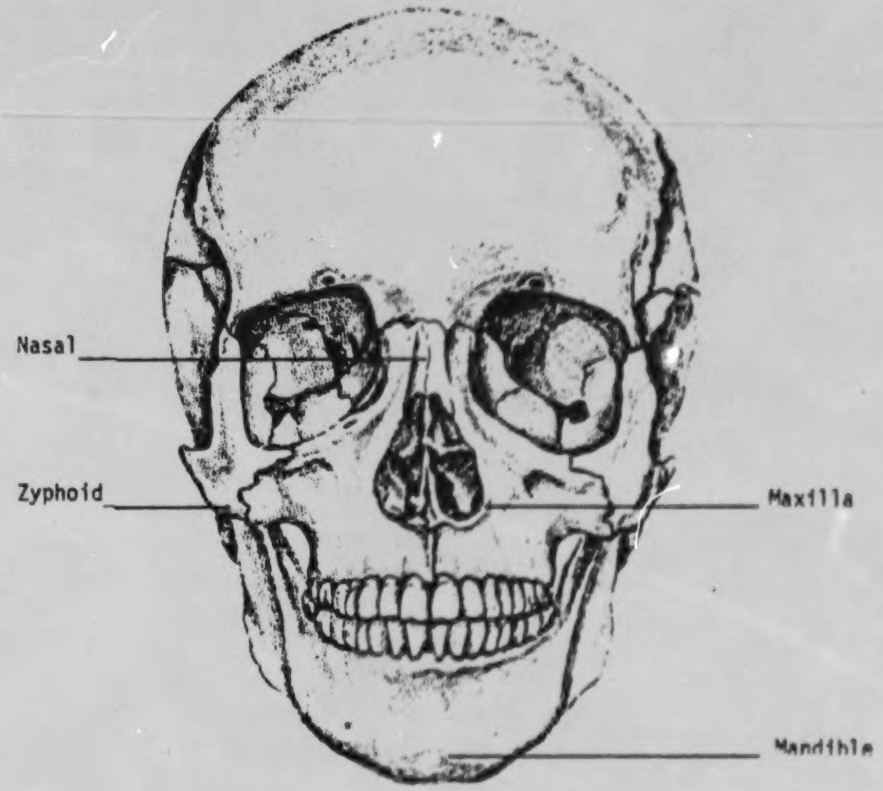

Figure 1

Listed below are functions of the eye and structures of the eye. Select the proper function for each structure. Label each structure listed below on Figure 2. Refer to AFM 160-34, Page 2-41 and 2-42.

Functions of the Eye

____a. Fold of skin which protects the eye.

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____b. Protects the front of the eye.

____c. Regulates the amount of light entering the eye.

____d. Focuses the light.

____e. Inner lining of the eyeball on which the image is focused.

____f. Transmits the image to the brain.

____g. Lubricates the surface of the eyeball.

____h. Passageway for tears.

____i. Controls movement of the eyeball.

Structures of the Eye

1. Lacrimal duct
2. Lens
3. Ocular muscles
4. Eyelid
5. Optic nerve
6. Iris
7. Cornea
8. Lacrimal gland
9. Retina

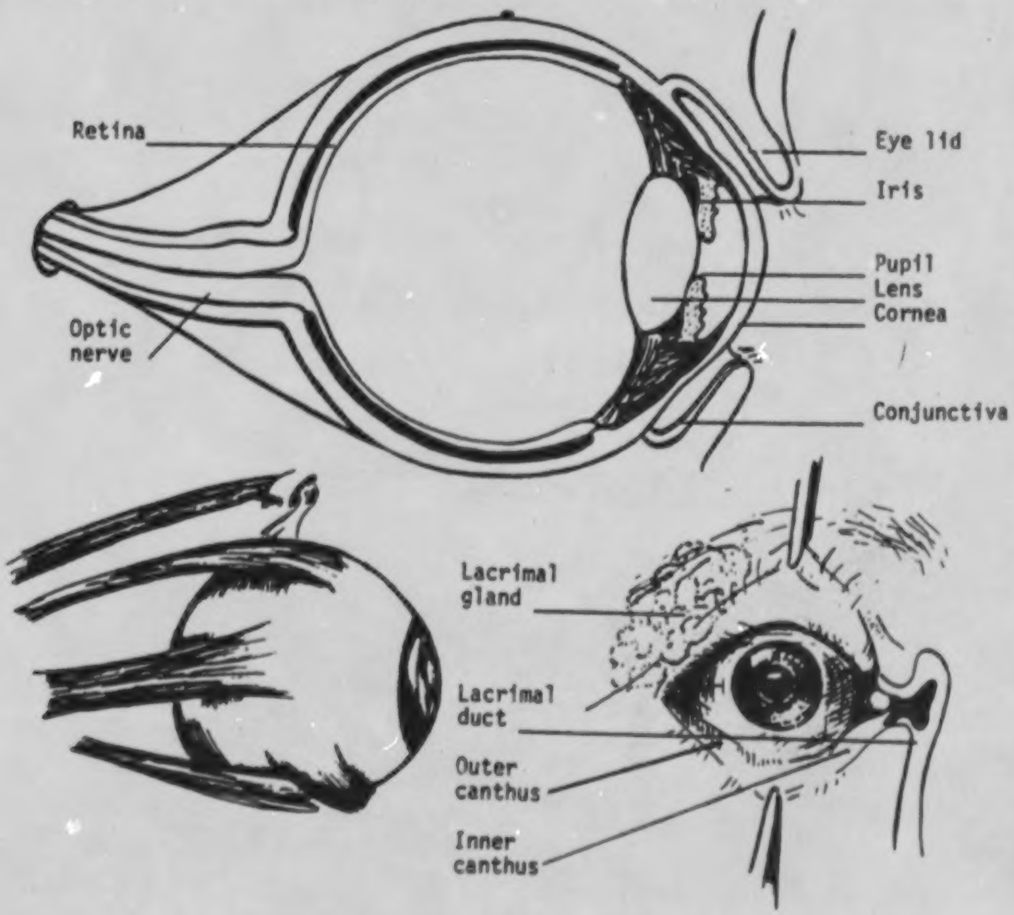
Retina
Eye lid
Iris
Pupil
Lens
Cornea
Optic nerve
Conjunctiva
Lacrimal gland
Lacrimal duct
Outer canthus
Inner canthus

Figure 2

The following lists are of functions of the ear and structures or parts of the ear. Select the proper function for each structure. Label each structure listed on Figure 3. Refer to AFM 160-34, Page 2-43.

Functions of the Ear

____a. Receives sound vibrations and transfers them into nerve impulses.

____b. Responsible for equilibrium or balance.

____c. Converts the sound waves to sound vibrations.

____d. Equalizes pressure between the atmosphere and the middle ear.

____e. Magnifies the force of vibrations received at the tympanic membrane.

____f. Passageway for external sound waves to the middle ear.

Structures of the Ear

1. Cochlea
2. Semi-circular canals
3. Auditory canal
4. Eustachian tube
5. Tympanic membrane
6. Ossicles

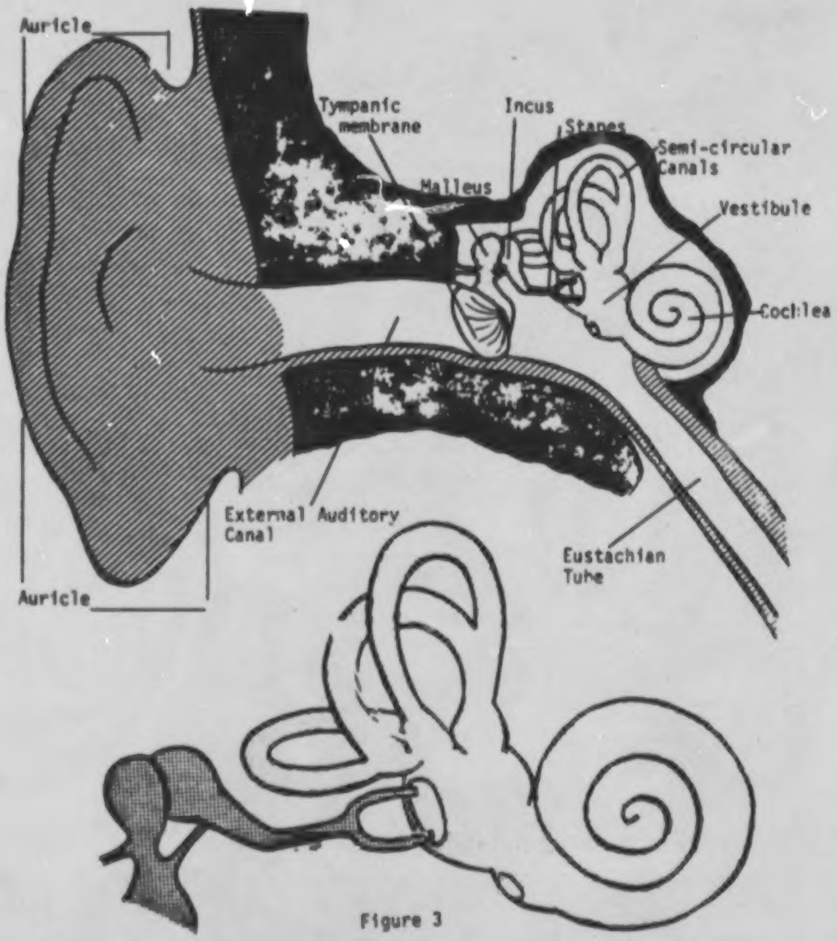
Auricle
Tympanic membrane
Incus
Stapes
Semi-circular Canals
Malleus
Vestibule
Cochlea
External Auditory Canal
Eustachian Tube
Auricle

Figure 3

Listed below are functions of the structures of the nose and throat. Select the proper function for each structure. Label each structure listed below on Figure 4. Refer to AFM 160-34, Page 2-27 - 2-29.

Functions of the Nose and Throat

____a. Prevents food from entering the larynx.

____b. Air passage only.

____c. External opening of the nose.

____d. The throat behind the mouth.

____e. Contains the voice box.

____f. Passageway for food and air and opens into the larynx and the esophagus.

____g. Divides the nasal cavity into two cavities

Structures of the Nose and Throat

1. Nasopharynx
2. Nares
3. Laryngopharynx
4. Epiglottis
5. Larynx
6. Septum
7. Oropharynx

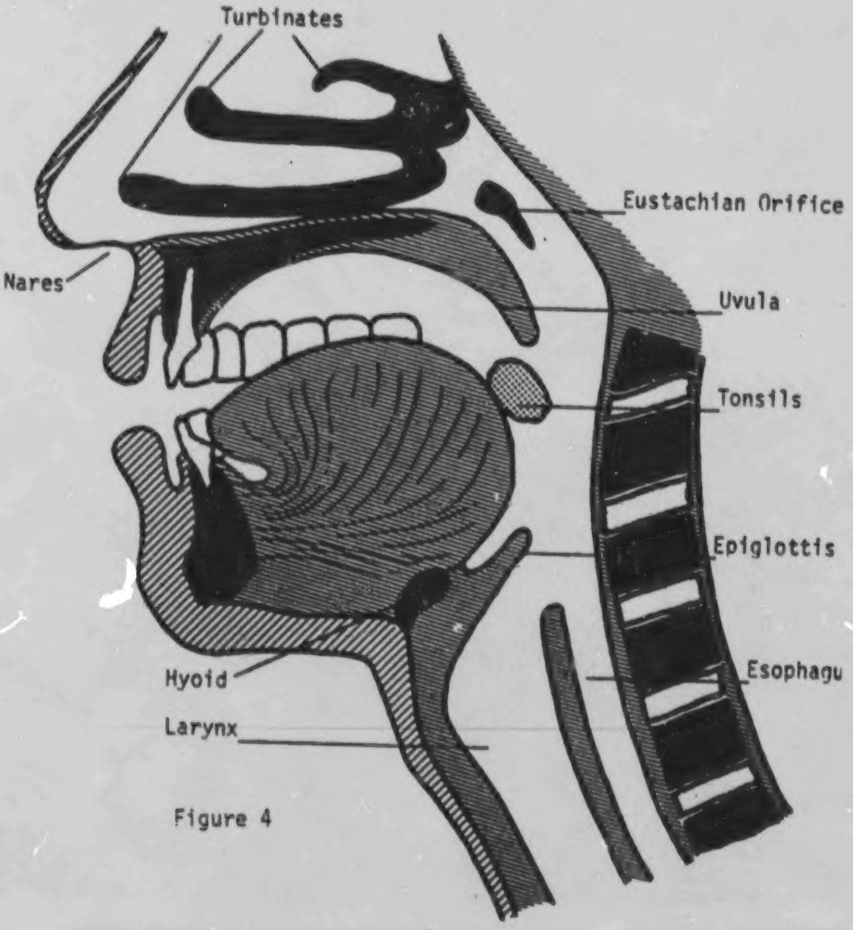
Turbinates
Eustachian Orifice
Nares
Uvula
Tonsils
Epiglottis
Esophagu
Hyoid
Larynx

Figure 4

BASIC PATIENT NEEDS AND NURSING CARE APPROACHES FOR THE PATIENT WITH MAXILLOFACIAL AND EENT DISORDERS

1. Eye

a. Traumatic injuries

(1) Types

(a)

(b)

(c)

(d)

(e)

(2) Preventive Measures

(3) Treatment and Nursing Care

b. Conjunctivitis. Inflammation of the conjunctiva (the membrane that lines the eyelids and covers the eyeball in front). The most common causes are allergy, infections and physical or chemical trauma.

(1) Signs and Symptoms

(a)

(b)

(c)

(d)

(e)

(2) Treatment and Nursing Care

c. Cataracts. An opacity (cloudiness) of the lens or its capsule.

(1) Signs and Symptoms

(a)

(b)

(c)

(d)

(2) Treatment. Surgical removal of the lens.

(a) Preoperative Care

(b) Post-Operative Care

d. Glaucoma. Increased pressure within the eyeball (intraocular pressure). If untreated, may lead to blindness.

(1) Signs and Symptoms

(a)

(b)

(c)

(2) Treatment and Nursing Care

e. Corneal Ulcer. A breaking down of corneal tissue.

(1) Signs and Symptoms

(a)

(b)

(c)

(d)

(2) Treatment and Nursing Care

2. Ear

a. Foreign Body. Any object entering the ear.

(1) Signs and Symptoms

(2) Treatment and Nursing Care

b. Acute Otites Media. Inflammation of the middle ear.

(1) Cause. Pathogenic (disease-producing) organisms.

(2) Signs and Symptoms

(a)

(b)

(c)

(d)

(e)

(f)

(g)

(3) Treatment and Nursing Care

c. Disorders of the Inner Ear

(1) Signs and Symptoms

(a)

(b)

(c)

(d)

(e)

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(2) Treatment and Nursing Care

d. Deafness - a loss of hearing due to a defect in the sound conducting mechanisms.

(1) Signs and Symptoms

(a)

(b)

(c)

(d)

(2) Treatment and Nursing Care

3. Nose and Throat

a. Epistaxis. Nosebleed.

(1) Causes

(a)

(b)

(c)

(d)

(e)

(2) Treatment and Nursing Care

b. Tonsillitis. Inflammation of the tonsils.

(1) Signs and Symptoms

(a)

(b)

(c)

(2) Treatment and Nursing Care

(a) Symptomatic Care

(b) Tonsillectomy Care

4. Maxillofacial Injuries. Fractures of the jaw.

   a. Signs and Symptoms

      (1)

      (2)

      (3)

      (4)

      (5)

   b. Initial Treatment and Nursing Care

   c. Post-operative Treatment and Nursing Care of the Patient with a Wired Jaw

(1) Maintain an open airway - primary concern

5. Fracture of the Nose

   a. Cause - direct injury.

   b. Signs and Symptoms

      (1)

      (2)

      (3)

   c. Treatment and Nursing Care

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6. Sinusitis. Inflammation of the sinus.

   a. Signs and Symptoms

      (1)

      (2)

      (3)

      (4)

      (5)

   b. Treatment and Nursing Care

BASIC FACTS AND PRINCIPLES RELATED TO MAXILLOFACIAL AND EENT DIAGNOSTIC, THERAPEUTIC AND SPECIAL NURSING PROCEDURES

1. Eye

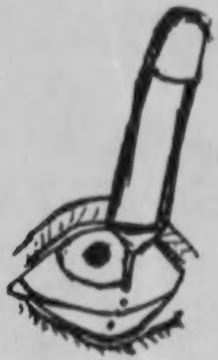
   a. External examination

      (1) Purpose

(2) Procedure

Several procedures are used in the nursing care of patients with eye disorders. Your performance of these procedures will aid in relieving patient discomfort and should be done in such a manner as to prevent further injury to the patient.

b. Eye Drop Instillation



(1) Purpose. To place medication in the eye.

(2) Procedure

(a) Use only a sterile eyedropper.

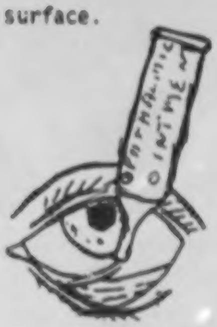
(b) Patient should be flat on his back or sitting with head tilted back.

(c) Place solution in the center of the lower conjunctival sack (eyelid).

(d) Close eye slowly.

(e) Rotate eyeball to lubricate entire eye surface.

c. Eye Ointment Instillation



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(1) Purpose. To place medication in the eye.

(2) Procedure

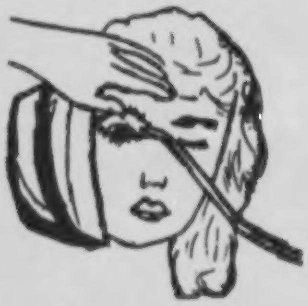
(a) Use only ointment specifically ordered for eye use.

(b) Place ointment in the lower conjunctival sack.

(c) Start from the inner canthus (corner of the eye closest to the nose) and work to the outer canthus.

(d) Same as steps d and e for eye drops.

d. Irrigation Procedure



(1) Purpose. To cleanse, remove irritating substances and to soothe the eye.

(2) Procedure

(a) Use sterile solution and equipment.

(b) Place patient on the affected side.

(c) Hold the upper eyelid open and have patient look down.

(d) Allow the solution to flow from the inner to outer canthus into an emesis basin.

(e) Each eye is treated as a separate unit with its own equipment.

NOTE: Use solution ordered by the physician.

e. Eye Compresses.

(1) Purpose. Cold compresses often used to relieve swelling. Warm compresses often used to help localize infections.

(2) Procedure

(a) Explain procedure to patient.

(b) Wash hands and assemble equipment.

1 Sterile solution as ordered.

2 Sterile dressings, gloves, basin.

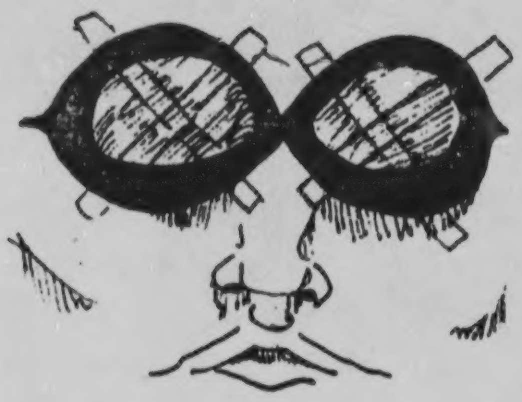
3 Hot plate for warm compresses.

(c) Pour solution into sterile basin.

(d) Open dressings into sterile solution.

(e) Place compress on patient's eye and change as needed.

f. Eye Dressings Procedure



(1) Purpose. To protect recent surgical areas and/or to protect the eyes from light.

(2) Procedure

(a) Wash hands.

(b) Greet patient, explain procedure.

(c) Assemble equipment.

1 Sterile eye pads

2 Surgical paper tape

3 Double eye shields

(d) Place patient in semi-fowler's position

(e) Place a sterile eye pad over each eye (additional eye pads may be used if patient has deep-set eyes).

(f) Place tape diagonally over each eye.

(g) Secure double eye shields over taped eyepads.

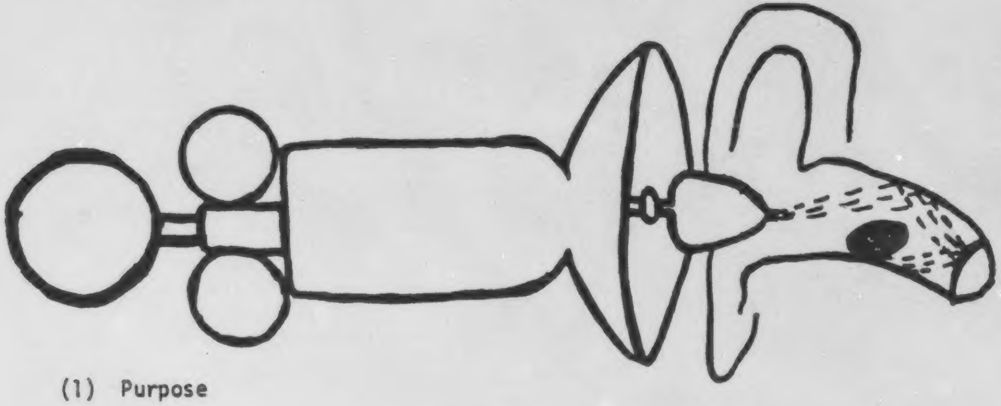
(h) Mark the affected eye on the front of the eye shield with tape.

(i) Ambulate the patient, if ordered.

(j) Return patient to bed and make him comfortable.

2. Ear Disorders. Pain, impairment of hearing, and a foreign body sensation are usually good indicators that something is in the ear that doesn't belong there. This object can be anything -- buttons, cerumen (ear wax), beans, wood, or anything. One method of removing most of these objects is through irrigation (shown in the following illustration). This procedure will not be done, however, if seeds, beans, or wood are lodged as they will swell with the moisture, become firmly embedded, and may cause serious damage to the sound conducting mechanisms.

a. Ear Irrigation Procedure



(1) Purpose

(2) Procedure

(a) Use only the solution ordered by the physician.

(b) Solution should be at room temperature to prevent vertigo.

(c) Place the patient in a sitting position with his head tilted slightly to the affected side.

(d) Avoid trauma to the tympanic membrane by directing the flow of solution against the wall of the auditory canal.

(e) Return fluid will be caught in an emesis basin which the patient should hold firmly against the cheek under the ear.

(f) The Pomeroy syringe (as demonstrated above) was developed specifically for irrigating the ear.

3. Examination of the Throat

a. Purpose. To examine for possible abnormalities.

b. Procedure

(1) Explain procedure to patient.

(2) Wash hands and assemble equipment

(a) Tongue blades

(b) Light

(3) Using tongue blade, gently press tongue down.

(4) Using the light, observe the throat and record abnormalities.

4. Procedure for Obtaining a Throat Culture

a. Purpose

b. Procedure

(1) Wash hands, assemble equipment.

(2) Greet patient and explain procedure.

(3) Instruct patient to tilt head backwards and open mouth.

(4) Examine throat with light for area to be cultured.

(5) Remove applicator without contamination of culture tube.

(6) Depress tongue with tongue blade.

(7) Swab posterior portion of throat.

(8) Return applicator to sterile container without cross contamination.

(9) Discard used tongue blade in waste receptacle.

(10) Wash hands, complete lab slip, take specimen to laboratory.

CAUTION: Never lay tongue blades on table.

QUESTIONS

1. Describe how light rays travel through the eye to the brain.

2. What precautions should you, the Medical Service Specialist, be alert to prevent cross contamination while instilling eye drops?

3. Describe how sound waves travel through the ear to the brain.

4. Describe the procedure for irrigating a patient's ear. What precautions should you take?

5. What structure makes it easy for a throat infection to spread to the middle ear?

6. What must you be particularly alerted for when caring for a patient who has just had a tonsillectomy?

7. What special considerations should you make for a patient who is deaf?

8. What special considerations should you make for a patient who has had both eyes patched following surgery?

9. State the nursing approaches to be taken when caring for a patient with his jaws wired?

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STUDY GUIDE AND WORKBOOK 3ABR90230-VI-4

DEPARTMENT OF NURSING

MEDICAL SERVICE SPECIALIST

EMERGENCY CARE II

August 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
SHEPPARD AIR FORCE BASE, TEXAS

Designed For ATC Course Use

DO NOT USE ON THE JOB

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

SW 3ABR90230-VI-4
August 1975

EMERGENCY CARE II

OBJECTIVES

a. Select the basic facts and principles related to the emergency treatment of a poisoned patient in a USAF hospital or clinic.

b. Select the basic facts and principles related to the emergency treatment of a patient with heat stroke and heat exhaustion in a USAF hospital or clinic.

c. Select the basic facts and principles related to the emergency treatment of a patient with cold injuries in a USAF hospital or clinic.

d. Select the basic facts and principles related to the emergency treatment of a patient with fractures in a USAF hospital or clinic.

INTRODUCTION

As you learned in Emergency Care I, when you are doing first aid and emergency procedures the thing to remember is DO NOT get excited; act quickly and efficiently. You should check the airway especially in an unconscious patient. DO NOT move a patient until the extent of his injuries have been determined, unless his life is in danger because of his surroundings. Keep the patient lying down with his head level until the extent of his injuries have been determined. Carefully remove enough clothing to enable you to examine the injury to determine its extent. The best way to remove the clothing is to rip it along the seams, but cut if necessary, especially in cases of fractures. DO NOT remove to much clothing; exposure to cold may bring on shock in the patient. DO NOT attempt to give an unconscious patient anything by mouth. DO NOT give an unconscious patient a respiratory depressant.

INSTRUCTIONS

1. Read, prior to class: AFM 160-34, Medical Airman Manual, paragraphs 3-17, Poisonings, 3-15, Heat Exhaustion, Cramps and Shocks, 3-16, Cold Injuries, 3-14, Fracture.

2. Use the workbook to take notes during class.

3. Answer the questions at the end of the SW. Use your notes and AFM 160-34 to check your answers.

INFORMATION

POISONED PATIENT

1. Classifications of ingested poison

a.

b.

c.

d.

2. Basic procedures for treating patients who have ingested poison.

   a.

      (1)

      (2)

      (3)

      (4)

      (5)

3. Treatment

   a.

b.

c.

(1)

(2)

(3)

d.

HEAT STROKE

Cause

1.

2.

3.

Signs of Impending Heat Stroke

1.

2.

3.

4.

5.

Signs and Symptoms of Heat Stroke

1.

2.

3.

4.

Treatment

Lower patient's temperature as rapidly as possible by

1.

a.

b.

2.

3.

4.

5.

6.

HEAT EXHAUSTION

Cause

Signs and Symptoms

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

623

11.

Treatment

Restore the victim's circulation to normal by replacing the salt and water he has lost.

1.

2.

3.

4.

COLD INJURIES

Frostbite

SIGNS AND SYMPTOMS.

1.

655

624

2.

3.

4.

5.

6.

Trench Foot

Definition -

1.

2.

3.

4.

625

5.

Treatment for Both Types of Cold Injuries

1.

2.

3.

4.

5.

6.

7.

EMERGENCY TREATMENT OF FRACTURES

Definition of a Fracture

657

Classification of Fractures

1. Closed fracture (simple)

2. Open fracture (compound)

Types of Fractures

1. Incomplete (Greenstick) fracture

2. Comminuted fracture

3. Impacted fracture

Signs and Symptoms of a Fracture

1.

2.

3.

4.

5.

Handling Fractures

1.

2.

3.

4.

5.

6.

7.

8.

9.

Fractures of Specific Bones

1. Skull fracture - the primary concern in the treatment of a possible fracture of the skull is the possibility of damage to the brain.

   a. Signs and Symptoms

      (1)

      (2)

      (3)

      (4)

      (5)

      (6)

      (7)

      (8)

      (9)

(10)

(11)

b. Treatment for skull fracture

(1)

(2)

(3)

(4)

(5)

FRACTURES OF THE JAW. When a jaw has been fractured there is usually a history of a sharp blow to that part.

1. Signs and Symptoms

a.

b.

c.

2. Treatment for fractured jaw

a.

b.

c.

d.

FRACTURE OF THE NECK. Fractures of the neck are usually caused by a fall or a blow in the neck area.

1. Signs and Symptoms

a.

b.

c.

d.

e.

2. Treatment

a.

b.

c.

d.

e.

FRACTURE OF THE CLAVICLE.

1. Signs and Symptoms

a.

663

b.

c.

2. Treatment

a.

b.

FRACTURES OF HUMERUS.

1. Signs and Symptoms

a.

b.

c.

d.

[illegible]. Treatment

a.

b.

c.

d.

FRACTURES OF FOREARM (RADUIS AND ULNA).

1. Signs and Symptoms

    a.

    b.

2. Treatment

    a.

    b.

    c.

FRACTURE OF RIBS.

1. Signs and Symptoms

a.

b.

c.

2. Treatment

a.

b.

FRACTURE OF THE SPINE.

1. Signs and Symptoms

a.

b.

c.

2. Treatment

a.

b.

c.

NOTE: Spinal fractures should be handled with extreme care to avoid permanent paralysis.

FRACTURE OF PELVIS.

1. Signs and Symptoms

   a.

   b.

   c.

   d.

2. Treatment

   a.

   b.

636

c.

d.

e.

FRACTURE OF FEMUR.

1. Signs and Symptoms

a.

b.

c.

d.

e.

2. Treatment

a.

b.

c.

d.

FRACTURE OF PATELLA.

1. Signs and Symptoms
    a.

    b.

    c.

    d.

2. Treatment
    a.

    b.

638

c.

d.

e.

FRACTURE OF LOWER LEG (FIBULA AND TIBIA).

1. Signs and Symptoms

   a.

   b.

   c.

2. Treatment

   a.

   b.

   c.

QUESTIONS

Answer the following questions, check your answers using your notes and AFM 160-34.

1. Why would a stomach tube or emetic not be used if the patient has ingested a strong acid or a strong alkali?

2. What are the signs and symptoms of heat stroke?

a.

b.

c.

d.

3. What are the signs and symptoms of frostbite?

a.

b.

c.

d.

e.

f.

4. Define the term "fracture."

5. List the types of fractures.
   a.
   b.
   c.

6. What is the primary concern in the treatment of a fractured skull?

7. Why should fractures of the spine be handled with extreme care?

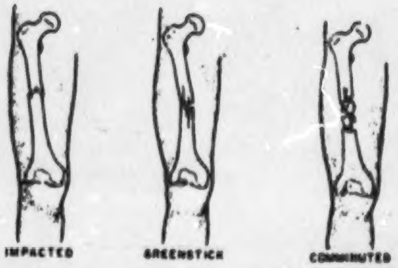

IMPACTED
GREENSTICK
COMMINUTED

Figure 1. Types of Fractures

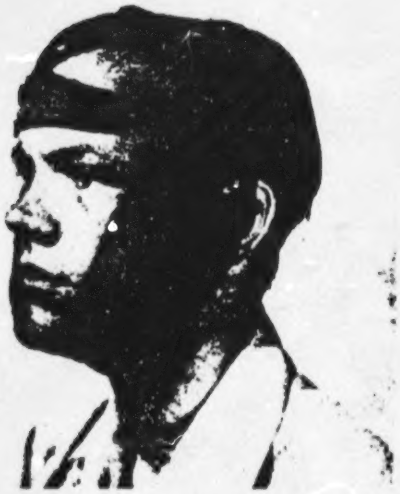


Figure 2. Barton Bandage

Used to immobilize the jaw following fracture

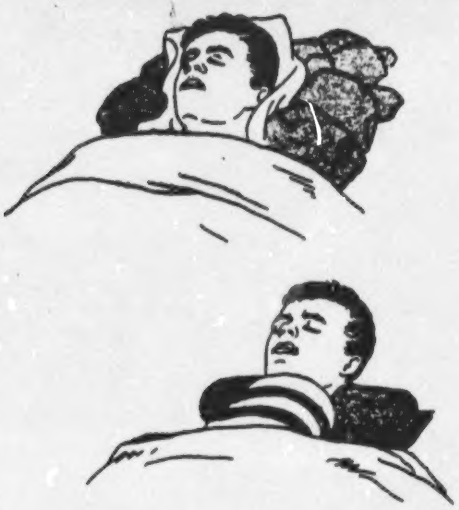


Figure 3. Stabilizing Patient's Fractured Neck

Fractures of the Neck (Cervical Spine). These fractures should be immobilized by a high collar, which tends to lengthen the neck and raise the chin so as to arch the neck backward. A simple collar can be improvised from an artillery shell container. The cardboard cylinder should be cut with a knife into a collar about 5 inches high. It should be split on one side, pulled apart, and adjusted around the neck. Sand bags should be taped on both sides of the head to keep it from rolling from side to side while the patient is being transported.

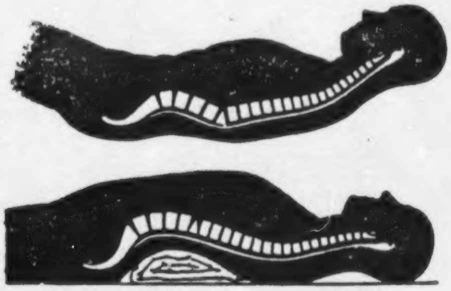


Figure 4. Effect of Placing Blanket Under Fractured Spine

Fractures of the Spine. Fractures of the spine should be treated with great care because of the danger of injuring the spinal cord, which runs through the spinal column. Any injury to the spinal cord may result in paralysis of the body below the point of injury. A person who is suspected of having a broken back should only be moved on a litter. He must lie face up with support under his head and legs. This will arch his back and prevent further injury to the spinal cord. The back should be kept arched; if it is allowed to hump, the bones of the spine may cut the spinal cord. A blanket or similar object should be made into a roll about 4 inches in diameter and about 2 feet long; this roll should be placed on the litter crosswise at the point where the injury will be when the patient is on the litter. The patient should then be gently rolled onto the litter; the fracture should rest directly over the blanket roll.

Figure 5. Patient with Fractured Spine Lifted onto a Lifter

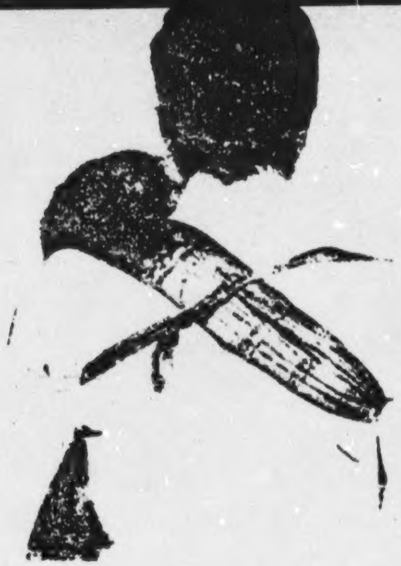


Figure 6. Method of Immobilizing the Clavicle by Using a Cravat Bandage

Fracture of the Ribs. It is impossible to splint these fractures, but the pain can be considerably relieved if the size of the respiratory excursion is restricted. This is done by binding a tight swathe of muslin bandage around the chest or by placing three triangular bandages folded in cravat style around the chest (Figure 7). These should be applied when the patient has exhaled all of air from his lungs. Adhesive tape applied to the chest is most effective. It should be applied in this way: First, shave the hair from the involved side of the chest; ask the patient to exhale; after he has exhaled completely, apply one end of the tape over the spine and the other around the chest and across the sternum (Figure 8).

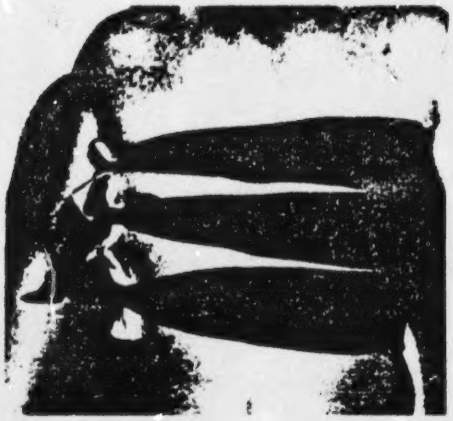


Figure 7. Immobilizing the Chest With Cravats

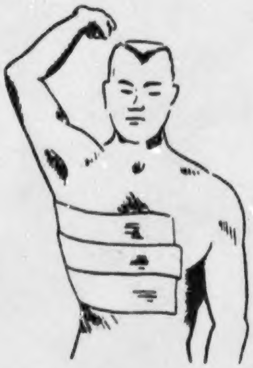


Figure 8. Method of Taping a Fractured Rib

Figure 9. Applying Padded Basswood Splint With Elastic Bandage

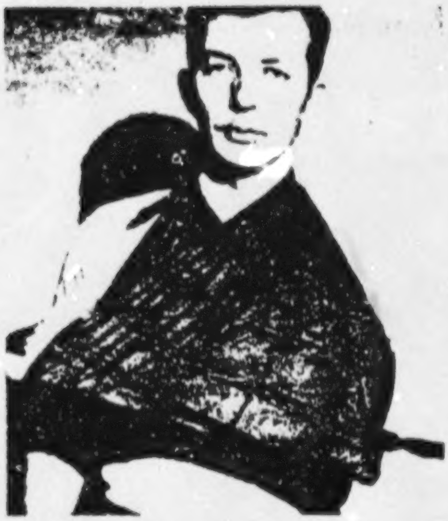


Figure 10. Fractured Wrist Immobilized in a Padded Basswood Splint and Supported in a Sling

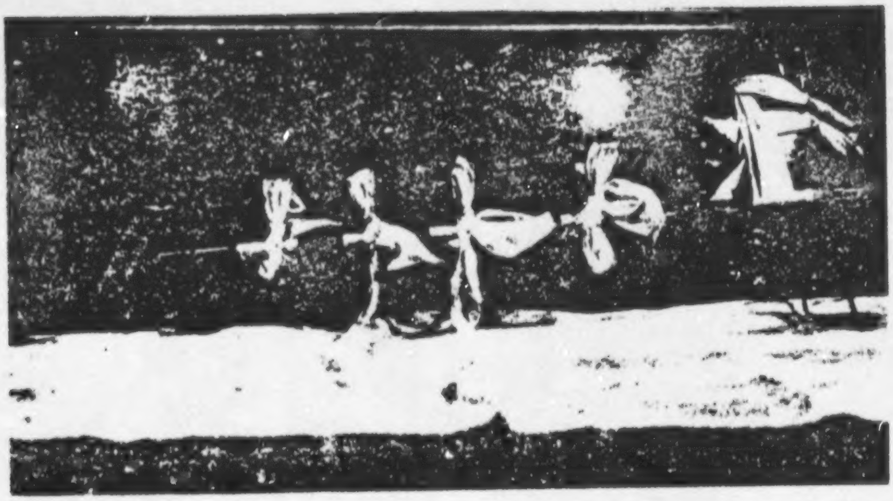


Figure 11. Thomas Leg Splint

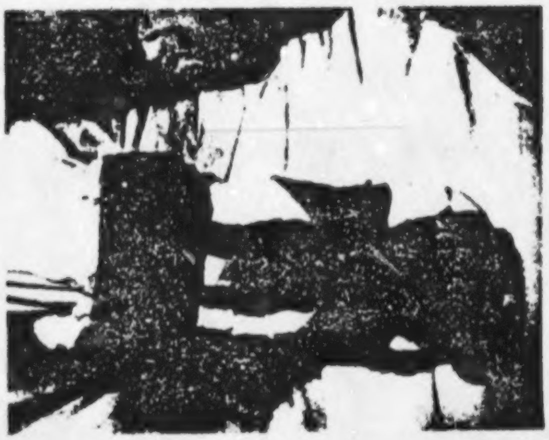


Figure 12. Padded Wire Ladder Splint of the Ankle

STUDY GUIDE AND WORKBOOK 3ABR90230-VI-5

DEPARTMENT OF NURSING

MEDICAL SERVICE SPECIALIST

THE PATIENT WITH SKIN DISORDERS

July 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
SHEPPARD AIR FORCE BASE, TEXAS

Designed For ATC Course Use

DO NOT USE ON THE JOB

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

SW 3ABR90230-VI-5
July 1975

THE PATIENT WITH SKIN DISORDERS

OBJECTIVES

Select terms and principles about the anatomy and physiology of the patient with skin disorders.

Select basic patient needs and nursing care approaches for the patient with skin disorders.

Select the basic needs and nursing care approaches for the burned patient.

INTRODUCTION

This study guide/workbook will acquaint you with the skin, its structures and their functions; selected terms; and nursing care for the patient with a skin disorder. You will also find a separate section dealing with types of burns and the special care required for the burn patient.

INFORMATION

ANATOMY AND PHYSIOLOGY

Identify the parts of the skin in the diagram by placing the number of each part in the correct space.

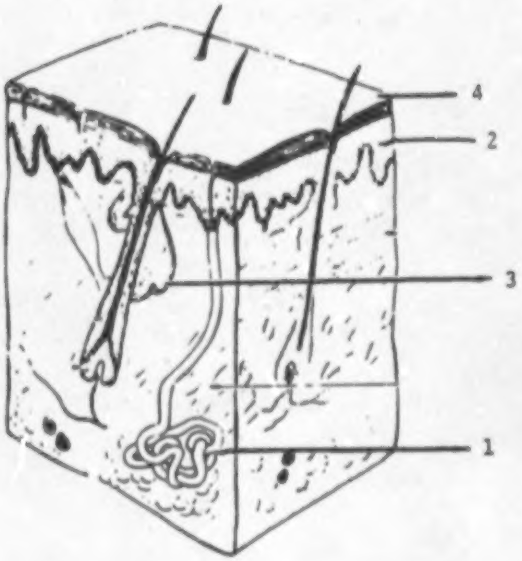
The epidermis is the tough visible layer which is in areas of more pressure or trauma. It is insensitive, nonvascular, and resistant to external irritant

The dermis, also known as the corium or true skin, is just below the epidermis. It contains the nerve endings and blood vessels.

The sweat glands or sudoriferous glands are secretory glands which produce perspiration. Excessive fluid loss through perspiration can cause dehydration and electrolyte imbalance.

The sebaceous glands are secretory glands which produce oil. The oil lubricates skin and hair making them more pliable and serves also as a protection to keep the skin from drying out.

This supersedes SW 3ABR90230-IV-2, December 1974



List the functions of the skin.

1. Protection

2. Regulation of body temperature

3. Elimination

4. Environmental information

Terminology

The following terms are frequently used in dermatology. Give their definitions and an example of each.

1. Macule

2. Papule

3. Vesicle

4. Pustule

5. Wheal

6. Fissure

7. Ulcer

8. Circumscribed

9. Excoriation

10. Lesion

Nursing approaches include several essentials of good skin care to aid in the treatment of skin disorders and to prevent their recurrence.

1.

2.

3.

4.

5.

Prevention of Pruritis

a. Purposes: Pruritis causes great discomfort to the dermatological patient. Reducing this itching sensation will allow the patient to be more comfortable as well as promote healing of the primary disorder.

b. Methods:

A cool environment will help by keeping the skin free from perspiration.

When the patient is bathed, the skin should be patted dry, NOT rubbed, to reduce irritation and itching.

Colloid baths leave a film on the skin which reduces pruritis. These may include oatmeal, bran, corn starch, baking soda or commercial preparations as ordered by the physician. This same coating is also left on the bath tub, therefore the patient must be cautioned or assisted when getting out of the bath tub for safety reasons.

Shortening fingernails or wearing soft gloves will aid in reducing scratching.

Soaks may be applied to the skin or medications ordered by the physician. These should be given as scheduled with changes and/or results reported. Observe closely to identify allergic sensitivities, such as dust, wool, feathers, tape.

Dietary Needs

The proper diet contributes to the overall physical well being of the patient as well as increasing his defenses against infection. Dermatology patients are often placed on special diets such as high protein, low fat, low carbohydrate or nonallergenic.

Nursing support for the dermatological patient should include understanding, patience and continuous encouragement.

Observation

Observation plays an important role in nursing care of this patient. Points to look for when observing the lesions include

1.

2.

3.

4.

5.

Rehabilitation

Rehabilitation is greatly affected by the patient's psychological needs. As skin disorders usually take a long time to heal, the patient may become discouraged, depressed, and frustrated due to his slow progress and altered appearance.

Teach the patient to do as much of his care as is possible--most can, but simply need to be reminded or given slight assistance.

Diversion will help considerably to keep the patient's mind off of his illness. Red Cross activities, occupational therapy, ward projects and visitors can help. No patient gains from being allowed to sit and dwell on his illness. It is important to mention here that adequate rest must also be stressed.

The patient must also be made aware that his treatments will continue for a long period of time after leaving the hospital and the importance of this must be impressed upon him.

Burns

The Medical Service Specialist must have knowledge and understanding of the care and management of the burn patient. He must be aware of the degrees of burns, the nursing care approaches and the methods of burn treatment.

Burns are divided into three categories:

1. First degree burns

2. Second degree burns

3. Third degree burns

PREVENTION/CONTROL OF SHOCK. Shock is the most important complication to consider for the first 72 hours after the initial burn. The patient can easily go into shock due to pain and the loss of normal circulating body fluids. Signs and symptoms of shock include:

Shock can be compounded by the patient's emotional reaction (i.e. fear, hysteria) and by continued pain.

The burn patient must have his vital signs monitored and any changes must be reported at once. Fluids must be replaced and body temperature maintained. The control of pain is vital in a burn case and medications may be required depending on the severity of the burn.

PREVENTION OF INFECTION. After the first 72 hours, when shock is no longer a major factor, infection is the number one cause of death or slow recovery in the burn patient.

The primary nursing care principles to follow are:

Reverse isolation, sterile equipment and materials and education and control of visitors are factors involved in this principle.

Antibiotics are started immediately; tetanus toxoid is administered and frequent cultures are taken at the burn sites to detect early sign of infection.

The specialist should always be on the lookout for signs and symptoms of infection. Two signs to be alert for are:

1.

2.

PREVENTION OF DEHYDRATION.

PREVENTION OF DEFORMITIES. The fear of physical disfigurement is a great psychological problem in burn patients. Patience, encouragement, realistic goals and understanding will do much to help your patient face his problem and cope with the situation.

OTHER COMPLICATIONS.

a. Malnutrition

b. Hypostatic pneumonia

The two methods for treating burns are the closed or occlusive method and the open or exposure method.

In the closed method the burn area is cleansed with a mild soap and all dead tissue is debrided. A nonstick gauze, impregnated with furacin or sulfa is placed on the skin and covered by a thick absorbent layer of sterile material. All appendages such as fingers or toes are dressed separately to prevent maceration. A thick absorbent, elastic, gauze roller bandage is then wrapped around the dressing to keep it in place. The final layer is an ace bandage or stockinette applied to provide an even compression on the part. The extremity is usually elevated to discourage edema.

Advantages to this method are:

Disadvantages are:

The open method includes placing the patient on sterile linen after the wound has been cleansed. In 48 to 72 hours a hard crust will form over the burn area. This crust is called eschar and is formed by the body itself and makes an excellent dressing. Regeneration of tissue begins under this crust and eventually the eschar will fall off leaving healthy nature in its place.

Advantages of this method are:

Disadvantages are:

Skin grafting is a surgical procedure done under aseptic conditions.

An Autograft is a permanent graft. Skin from an uninjured part of the patient's body is used.

Homografts and Xenografts use tissue from other sources and are temporary in nature. They serve the following purposes:

Prevent fluid loss, reduce the risk of infection and prepare a debrided area for permanent grafting.

The Medical Service Specialist plays an important role in helping the burn victim to a rapid and uncomplicated recovery. Your efforts will be rewarded when you see a severely burned patient return to his family well on the road to maximu rehabilitation.

QUESTIONS

Read the following principles and then indicate the statements that support the principle by placing an "S" in the blank preceding the statement.

Principle 1. In caring for patients with skin disorders, emotional disturbances will often aggravate the condition and response to treatment.

Statements:

______a. The patient with a skin disorder should not be permitted to share the ward with other patients.

______b. Since patients with skin disorders are often self-conscious about their condition, it is advisable to keep your contact with them to a minimum.

______c. Contact between the patient and his family should be encouraged.

Principle 2. The patient with a skin disorder must be taught the essentials of good skin care.

Statements:

______a. Avoid prolonged dampness or extended applications or contact with water.

______b. Cleanse the skin frequently with strong soap and water.

______c. Provide a warm environment for the patient.

______d. Avoid infection by using strong antiseptics on the skin.

______e. Do not overbathe the patient.

______f. Dry the skin by rubbing with a bath towel.

Principle 3. Proper diet contributes to the mental well being of the patient and promotes healthy skin to ward off infection and aid in healing.

Statements:

______a. The patient likes and dislikes pertaining to food should not be considered in his diet since the doctor must prescribe to meet his nutritional needs.

______b. The patient should be allowed to plan his fluid intake.

______c. Low fat diet may be used for treatment in some skin disorders.

Principle 4. In the severely burned patient there are usually sudden losses of fluid content. These losses can lead to dehydration.

Statements:

______a. Continuous IV fluid therapy must be provided for.

______b. The patient should be weighed on admission and his weight should be checked and recorded daily thereafter.

______c. Intake and output records are not routinely necessary unless the patient has over 70% of his body burned.

______d. If vomiting occurs, additional electrolyte containing fluids may be ordered.

Principle 5. Because of the large skin areas involved and the loss of body fluids, the chances of infection are greatly increased in the burn patient. Steps must be taken to reduce the probability of infection.

Statements:

______a. Tetanus Toxoid or antitoxins are contraindicated.

______b. Any person may visit the patient upon request.

______c. Strict surgical aseptic technique is practiced when caring for the burn patient.

______d. Because of the burn patient's increased sensitivity to drugs, antibiotics are never given.

DEPARTMENT OF NURSING

MEDICAL SERVICE SPECIALIST

THE PATIENT WITH GASTROINTESTINAL DISORDERS

August 1975

SCHOOL OF HEALTH CARE SCIENCES, USAF
SHEPPARD AIR FORCE BASE, TEXAS

Designed For ATC Course Use

DO NOT USE ON THE JOB

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

SW 3ABR90230-VI-6
August 1975

THE PATIENT WITH GASTROINTESTINAL DISORDERS

OBJECTIVES

1. Select terms and principles about the anatomy and physiology of the patient with gastrointestinal disorders.

2. Select basic patient needs and nursing care approaches for the patient with gastrointestinal disorders.

3. Select basic facts and principles related to gastrointestinal diagnostic, therapeutic, and special nursing procedures.

4. Under simulated conditions and with instructor guidance, correctly administer an enema. Sixty-five percent of the items on checklist VI - 6d must be accomplished.

INTRODUCTION

Our hospitals and clinics are often overcrowded with patients with gastrointestinal disorders--everything from simple indigestion to terminal cancer of the bowel. Your observation of these patient's symptoms will assist the physician in his diagnosis and treatment of their disorders. You will be responsible for the completion of many of the procedures ordered by the physician. You will assist the nurse or physician in the completion of other procedures. Your knowledge and skills in observation and in performing procedures will have a great affect on the recovery of your patient. The knowledge you gain here can assist in reducing the length of hospitalization for patients with gastrointestinal disorders.

INSTRUCTIONS

1. Review Terminology Book prior to class discussion.

2. Review AFM 160-34, pages 2-30 - 2-33, 4-118 - 4-127.

3. Review Sutton, Bedside Nursing Techniques, pages 142 - 175.

4. Review this SW and complete all review exercises prior to class discussion.

INFORMATION

TERMINOLOGY

Review pages 48-58, Vol 4 in your Terminology Book, PT 3ABR90230-I-5.

This supersedes SW 3ABR90230-V-5, December 1974

EXERCISES

Fill in the blank to the left of each statement with the word that is best described by that statement. Confirm your response after you have completed all 15 questions.

1. ______________________ Yellowing of the skin caused by bile in the blood stream.
2. ______________________ Used to designate organs of the chest or abdomen.
3. ______________________ Vomiting blood.
4. ______________________ Enlargement of the abdomen due to accumulation of gas or fluid.
5. ______________________ Wave of contractions along the alimentary canal.
6. ______________________ Gas or air in the stomach or intestine.
7. ______________________ Accumulation of fluid in the abdominal cavity.
8. ______________________ Black stool or vomit due to action of intestinal juices on free blood.
9. ______________________ Vomit.
10. ______________________ Loss of appetite.
11. ______________________ Drug used to induce vomiting.
12. ______________________ Feeling of sickness in the stomach with an impulse to vomit.
13. ______________________ Drug used to quicken and increase evacuation from the bowels.
14. ______________________ Surgical removal of a portion of an organ.
15. ______________________ Breakdown.

ANATOMY AND PHYSIOLOGY

Review pages 2-30 to 2-33 in AFM 160-34.

The structures and the functions of the gastrointestinal system can be broken down into several areas, beginning with the mouth and ending with the anus. We will discuss each of these areas and their primary functions.

To understand the gastrointestinal system we must first understand its function. The first function is that of ingestion, or the taking in of food. Once food enters the body, digestion begins. Digestion is the processing of food for use by the body cells. When digestion has been completed, the digested nutrients are deposited into the bloodstream or lymph system through a process called absorption. The elimination of waste occurs when the body has collected the material it cannot use and is ready to dispose of it. Now that you have a basic understanding of the functions of the gastrointestinal system, let's see how it is put together.

662

Alimentary Canal

The alimentary canal is a continuous tube from the mouth to the anus. This tube carries the food throughout the body. The alimentary canal has three basic layers. The first layer is a mucus membrane lining which contains glands that secrete digestive juices. The second is a muscular layer which is responsible for peristalsis. The third layer contains blood and lymph vessels that absorb the digested nutrients into the body.

Oral Cavity

The oral cavity contains the teeth, tongue, and salivary glands. The teeth and tongue physically break down the food and the salivary glands secrete saliva which is responsible for the beginning of digestion. There are three pairs of salivary glands.

Pharynx

From the oral cavity the food is carried into the pharynx. The purpose of the pharynx is simply to carry food into the esophagus. Up to this point the food has been moved voluntarily.

Esophagus

The esophagus is a hollow muscular tube that connects the pharynx with the stomach and serves as a channel for food going from the mouth to the stomach. From the time food enters the esophagus until it leaves the body, it is controlled by peristalsis.

Stomach

The stomach is located in the left upper quadrant. Instead of entering the stomach in one large mass, as is often thought, the food passes through the cardiac sphincter muscle which allows only a small amount of food to enter the stomach at one time. When food does enter the stomach it is stored and churned. Protein digestion begins in the stomach through its secretion of hydrochloric acid. To pass from the stomach into the small intestines the food particles must pass through the pyloric sphincter. This muscle serves the same purpose as the cardiac sphincter, allowing a small amount of food to pass through it at one time into the small intestine.

Small Intestine

The small intestine is about 25 feet long and is divided into three sections. The first section, the duodenum, produces several digestive juices. It also receives bile to emulsify fat, and pancreatic juices to complete protein digestion. The bile and pancreatic juices enter the intestine through the common bile duct. The middle portion of the small intestine is the jejunum. Since digestion is completed in the duodenum, the jejunum is responsible for absorbing the nutrients. The last portion of the small intestine is referred to as the ileum and it absorbs a small amount of fluid. The ileum connects the small intestine to the large intestine by way of the ileocecal valve.

Large Intestine

The large intestine is about five feet long and its primary function is to absorb fluids. Like many other parts of the gastrointestinal system, the large intestine is broken down into sections. The first portion is the cecum which is a blind pouch connected to the ileum. Attached to the bottom of the cecum is a worm like projection called the appendix. Although there have been many theories about the appendix it serves no known function. The colon is the middle portion of the large intestine and also the largest. The main function of the colon is to absorb water from the bowel contents, leaving only feces in the bowel. The colon is subdivided into several sections. The first section is the ascending (upward) colon followed by the transverse (across) colon followed by the descending (down) colon. The sigmoid colon follows the descending colon and is shaped like the letter "S".

Rectum

The rectum follows the colon and this portion is responsible for storing feces prior to evacuation.

Anus

The last section of the alimentary canal is the anus. The main purpose for the anus and the anal sphincter is to serve as a control for defecation.

Pancreas

Although the pancreas plays an important part as an endocrine gland it also serves an important function in digestion. The pancreas secretes pancreatic juice into the duodenum which helps to break down food. Insulin, which is the endocrine secretion of the pancreas, helps to break down the sugars and carbohydrates that enter the body.

Liver

The largest organ in the body is the liver and is located in the right upper quadrant behind the ribs and has several functions. Some major functions of the liver are production of bile, which is necessary to emulsify fats, changes carbohydrates into glycogen and stores the glycogen until it is needed by the body, stores certain vitamins, detoxifies certain poisons, filters out worn out red blood cells and produces substances which help in blood clotting. The secretions of the liver leave by the hepatic duct and joins with a duct from the gallbladder.

Gallbladder

The gallbladder is a pouch located on the underside of the liver. Its basic function is to store, concentrate and secrete (release) bile to emulsify or break down fats. During digestion, bile leaves by way of the cystic duct and joins the duct from the liver forming the common bile duct which empties into the duodenum.

All of the organs we have just discussed, are located in the abdominal cavity. This cavity is like a sack that holds the abdominal organs in place. To keep the abdominal organs lubricated and to help hold them in place, the abdominal cavity has an inner lining called the peritoneum. The peritoneum is a membrane which secretes a serous fluid that keeps the abdominal organs from rubbing together.

EXERCISES

A diagram of the gastrointestinal tract and the names of the structures are on the following pages. Place the name of the structure in Figure 1, in the space to the right of the number.

1. ______
2. ______
3. ______
4. ______
5. ______
6. ______
7. ______
8. ______
9. ______
10. ______
11. ______
12. ______
13. ______
14. ______
15. ______
16. ______
17. ______
18. ______
19. ______
20. ______
21. ______
22. ______
23. ______
24. ______

Mouth
Pharynx
Esophagus
Stomach
Cardiac Sphincter
Pyloric Sphincter
Duodenum
Jejunum

Ileum
Cecum
Appendix
Ascending Colon
Transverse Colon
Descending Colon
Signoid Colon
Rectum

Anus
Salivary Glands
Tongue
Liver
Common Bile Duct
Gallbladder
Pancreas
Illeocecal Valve

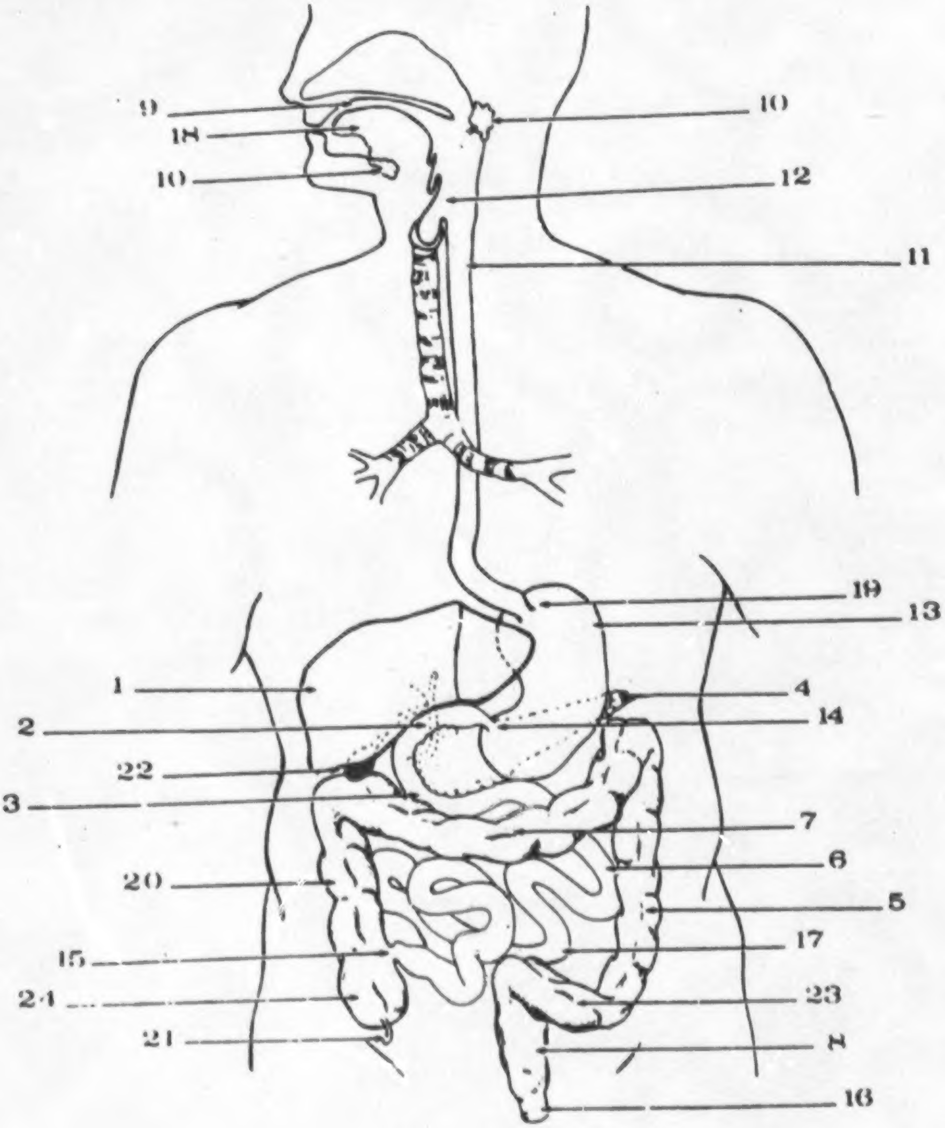

9
18
10
10
12
11
19
13
1
4
2
14
22
3
7
6
20
5
15
17
24
23
21
8
16

Figure 1

QUESTIONS

1. The four basic functions of the gastrointestinal system are ____________________,
____________________________, _________________________________, and
_____________________________.

2. Peristalsis begins in the ____.

3. The ________________________ sphincter allows food to pass into the small intestines.

4. The first part of the small intestines is the ______________________________.

5. Most water absorption takes place in the ____________________________________.

6. Four functions of the liver are:

a. ____
____

b. ____
____

c. ____
____

d. ____
____

7. Bile is used to ____
____.

NOTES

GENERAL SIGNS AND SYMPTOMS

Now that we know what the gastrointestinal system is and basically how it functions, we will discuss some signs and symptoms associated with a patient who has a gastrointestinal disorder.

The first and most common symptom of a GI disorder is pain. Just to know the patient hurts, however, is not enough. The physician will want to know where the pain is located. To assist in identifying areas, the abdomen is divided into sections as shown in Figure 2.

RUQ - Right upper quadrant
EPI - Epigastric
LUQ - Left upper quadrant
RL - Right lumbar
UMB - Umbilical
LL - Left lumbar
RLQ - Right lower quadrant
PEL - Pelvic
LLQ - Left lower quadrant

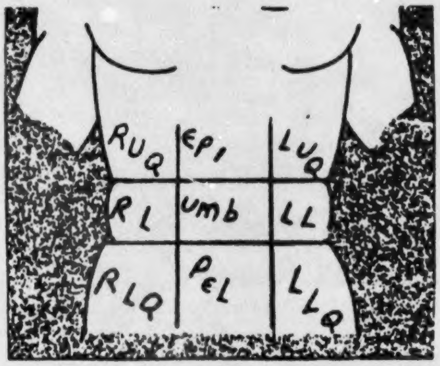


Figure 2

Another sign of a GI disorder is vomiting. As with pain there are several things that should be observed. Large amounts and frequent vomiting could lead to dehydration. The appearance of the vomitus should also be observed: Is there any blood or bile in the vomitus? If the patient has a bowel obstruction, it is possible that fecal matter may also be present in the vomitus. Again these observations could indicate to the doctor the patient's problem.

The first nursing action in the vomiting patient is to prevent aspiration of the vomitus. Vomiting may be prevented by having the patient take deep breaths and swallow when he feels nauseated. Remove the cause if known. Some drugs or emotional reactions can increase vomiting. Seeing or hearing another patient vomit may trigger a person's reflex. Or some odors common in a hospital are nauseating to already ill persons. Encouraging deep breaths or offering effervescent liquids (7 Up, Gingerale, etc.) can relieve the feeling of nausea and reduce vomiting. Again, the physician may prescribe drugs to relieve these symptoms.

Abdominal distention is another common symptom of a GI disorder. Is the patient's abdomen enlarged or tender to the touch? The physician may order medications, local heat applications, rectal tube insertion, or nasogastric suction to relieve abdominal distention.

Stools, like vomitus, should be noted for blood or bile. Mucus threads and worms could also be present, depending on the disease. Recording the appearance and frequency of bowel movements, checking for constipation or diarrhea, and the collection of stool specimens for diagnostic studies are part of the responsibilities of the MSS to this patient.

Anorexia is a very common symptom of gastrointestinal disorders. Often it is accompanied by a fever as the body attempts to fight off an infection. Providing oral hygiene before meals, serving attractive meal trays, and consideration for the patient's likes and dislikes in diet selection will be of help to improve the patient's appetite.

Many gastrointestinal disorders are caused by the patient's emotional state. If the individual is upset from a family problem or problems at work, he could easily develop a disorder of the GI tract. You should provide an atmosphere that encourages the patient to express his feelings and then report the situations discussed to the nurse for further evaluation.

Dehydration must be carefully avoided. A patient with diarrhea or vomiting could very easily become dehydrated. As discussed previously, an accurate intake and output record can assist the physician in identifying this problem. The patient may have to be weighed daily. By following through on many of the above nursing measures, dehydration can be prevented.

EXERCISES

1. The most common sign or symptom of a gastrointestinal disorder is ________________ ______________________________________.

2. Three possible causes of dehydration are:

   a. ____

   b. ____

   c. ____

3. Excessive fluid in the abdominal cavity is referred to as ______________________.

4. Flatus is defined as ____.

5. The first nursing action in the vomiting patient is to ______________________ ____.

6. Loss of appetite is called ____.

7. The patient's ______________________________ state may cause a gastrointestinal problem.

SELECTED DISORDERS OF THE GASTROINTESTINAL TRACT

Gastritis

Gastritis is an inflammation of the mucous membrane lining of the stomach. Gastritis may have several causes. Certain chemicals and drugs such as alcohol, aspirin or codine can cause gastritis. Infectious diseases in other parts of the body, such as uremia, diabetes, strep and staph infections may irritate the mucous lining. A poor diet or certain food substances such as excess tea, coffee, mustard or pepper may irritate the stomach mucosa.

The gastritis patient has specific signs and symptoms as well as some of the general signs and symptoms already discussed. The gastritis patient will generally have a coating of the tongue, severe nausea and vomiting, pain in the epigastric region, diarrhea (if the food was contaminated) and anoxeria.

Gastritis is treated symptomatically. But, you should observe the patient for changes in respiration, pulse and skin texture.

Enteritis

Enteritis is an inflammation of the small intestines and often occurs with gastritis. When both conditions occur together, the condition is known as gastroenteritis. Several causes of enteritis may be food poisoning, infectious diseases, certain drugs (such as aspirin, cathartic and cancer drugs), alcohol, mercury and emotional instability.

The enteritis patient will have some of the general signs and symptoms already discussed as well as specific ones. The enteritis patient may experience pain in the right lower quadrant, flatulence, fever and diarrhea.

Nursing objectives include controlling infection, prevention of complications, rest and psychological support.

Appendicitis

Appendicitis is an acute inflammation of the appendix. It is usually caused by the appendix opening becoming obstructed by a gard mass of feces, which is followed by inflammation, infection, and gangrene, and possible perforation. A ruptured appendix is serious, because intestinal contents can escape into the abdomen and cause peritonitis or an abscess.

An acute attack of appendicitis usually begins with progressively severe generalized pain in the abdomen, which later localizes in the lower right quadrant. Usually the pain is accompanied by fever, nausea and vomiting.

The appendicitis patient is treated surgically by removing the appendix. In most cases the patient recovers rapidly, he is allowed to get out of bed, food and fluids the day of the operation and is usually back to work in three to four weeks as long as he avoids heavy lifting and he takes it easy.

Peptic Ulcer

Peptic ulcer is an open lesion occurring in that part of the GI tract between the cardiac sphincter and the duodenum. Gastric juices, especially hydrochloric acid and pepsin from the stomach are extremely irritating to the lesion. The cause of peptic ulcers has not been determined, but doctors have found several predisposing factors.

Excessive secretion of hydrochloric acid in the stomach, emotional stress, irregular meal habits, smoking and certain drugs have all been associated with the patient who develops a peptic ulcer.

Some specific signs and symptoms of a peptic ulcer include an aching, cramp like or burning pain in the epigastric area and indigestion. This pain may be temporarily relieved by drinking milk or eating a small amount of bland food.

Nursing objectives include bland diet (or small frequent feedings of bland food) and mental rest, and preventing complications such as hemorrhage or perforation.

Hepatitis (Infectious)

Hepatitis is an inflammation of the liver causing damage and destruction to liver cells. The virus that causes hepatitis is found in contaminated food, water and milk.

Some specific signs and symptoms of hepatitis are fatigue, headache, anorexia, fever, tenderness in the right upper quadrant, clay colored stools, darker urine and jaundice.

Nursing objectives include high carbohydrate, low fat diet, bed rest until jaundice subsides and isolation.

NURSING CARE APPROACHES

General Nursing Approaches

Nursing care of the patient who has a gastrointestinal disorder can vary greatly depending upon the type of disease. One primary concern is to stop the spread of an infectious disease by using proper isolation procedures and proper hand washing technique. Mental stress in a patient with a GI disorder may further aggrevate the disease process. The patient should be placed in a quiet, pleasant environment to get as much physical and mental rest as possible. A GI patient is a likely candidate for dehydration and should have their intake and output monitored. Attractive meal trays can often help the patient to eat, even if he has anorexia. When diarrhea is present, special care should be taken to keep the perianal area clean. Special mouth care should be given if a patient has had a nasogastric tube and you should understand the principles of operating the suction apparatus. You should have a knowledge of the drugs the patient is taking and their action and side affects.

Surgical Nursing Approaches

Some patients with gastrointestinal disorders will require surgery. Their pre-operative nursing care is basically the same as you have learned in the previous classes. The only added thing to do is teach the patient to cough and deep breath before he goes to surgery. A couple of additional procedures for the post-op period are indicated for this patient also. Gastric suction is used and will be covered later. After recovery from the anesthesia, the patient may be placed in the semi-fowlers position to relieve the pressure on the incision.

QUESTIONS

1. Inflammation of the membrane lining of the stomach is called ____________________

____________________________________.

2. The gastritis patient will have a coating of the ______________________, severe

_________________________, and ____________________________________ and

________________________________ pain in the ____________________________ region.

3. Enteritis is an ____

____.

4. Several causes of enteritis may be ____,

________________________________ _________________________ and _________________

_____________________________ instability.

5. An open lesion between the cardiac sphincter and the duodenum is called a ______________________________.

6. Several pre-disposing factors toward peptic ulcers are: ____________________, ____________________, ____________________, ____________________ and ____________________.

7. Nursing objectives of peptic ulcers include a bland __________, __________ and ____________________ rest and preventing ____________________.

8. Hepatitis is ____.

9. Nursing objectives for hepatitis include proper ____________________, ______________ ______________ until ____________________ subsides and ____________________.

10. Foul smelling greasy stools, severe upper abdominal pain, fever, nausea and vomiting are signs of ____________________.

11. An inflammation of the gallbladder is called ____________________.

12. Nursing care of the GI patient may include ______________________________

____

____

____

____

____

13. The GI patient may be placed in ______________________________ position after recovery from anesthesia.

Read AFM 160-34, Pages 4-122 - 4-127. Sutton, Bedside Nursing Techniques, Pages 142 - 175.

Beside the basic nursing care of the gastrointestinal patient, there are several important procedures that the GI patient may experience. You, as the medical service specialist will assist with some procedures and perform other procedures.

DIAGNOSTIC PROCEDURES

Gastric Analysis

This procedure is used to determine the quality or presence of gastric secretions.

For the procedure you will need a chilled levin tube, a 50 cc syringe and sterile specimen cups. The patient is instructed to fast (not eat or drink) for at least eight hours prior to the test. The procedure is explained to the patient and a levin tube is inserted by a nurse or trained technician. The patient is encouraged to expectorate excess saliva because this mucus may invalidate the test. If there is little or no gastric secretion, gastric stimulation is needed. Alcohol, histamine or a drug called Histalog may be given to stimulate gastric secretions. Gastric contents are aspirated every 15 minutes for one hour. The specimens are sent to the laboratory for analysis. Your main job is collecting the specimens on time, placing the contents in separate containers and taking them to the laboratory.

Sigmoidoscopy

This is a direct visual examination of the sigmoid colon using a sigmoidoscope (a lighted, metal instrument) to check for inflammatory lesions, cancer, polyps or hemorrhoids.

Physical preparation of the patient includes a cleansing enema two to four hours prior to the procedure.

Nursing care responsibilities includes administering the enemas as ordered, gathering the equipment, positioning the patient in a knee chest position or in left lateral Sims providing emotional support, observing the patient for bleeding after the procedure.

During your tour in the Air Force, you will be required to perform nursing care for many patients suffering from gastrointestinal disorders. It is important to understand the patient's problem and to thoroughly understand the procedures and nursing care that will lead to a fast and complete recovery.

Several other examinations are often used to help the doctor diagnose the patient's disorder. Several of the diagnostic procedures are described in the following paragraphs.

Gastrointestinal Series

This is an X-ray examination of the esophagus, stomach and small intestines. The patient drinks a solution of Barium, which outlines the structures.

Physical preparation of the patient include NPS after midnight, maintaining NPO until X-rays have been completed and an enema or laxative after all X-rays are completed to help prevent constipation.

Nursing care responsibilities include maintaining NPO, administering the enema or laxative, insuring that the patient gets a meal after X-rays have been completed and providing ample rest.

Barium Enema

This is an X-ray examination of the large bowel or colon. The patient is given an enema using a solution of Barium, which outlines the structures.

Physical preparation of the patient includes a clear liquid diet the evening before exam and for breakfast on the day of exam, a laxative the evening before, and enemas till clear on the morning of the exam.

Nursing care responsibilities include insuring the proper diet is followed and administering the enemas as ordered.

3. Who is responsible for making sure that the patient is protected and does not become injured?

4. If a patient is unable to hear at all, what is one way you can communicate with him?

QUESTIONS

1. Gastric analysis is used to ____

____.

2. Gastric contents are aspirated every ______________________________ minutes.

3. Your job in gastric analysis is ____

____.

4. The procedure used to remove gas, fluids or stomach contents through a levin tube is called ____.

5. The pressure switch on the Gomco suction is set on __________________________.

6. An X-ray examination of the esophagus, stomach and small intestine is called a

____.

7. Examination of the large bowel or colon is called a ___________________________

__________________________________.

8. A complication following a barium X-ray is ___________________________________

________________________________.

9. Another name for a gallbladder series is ____________________________________.

Read AFM 160-34, Pages 4-118 - 4-122.

Enema

An enema is the injection of water, either plain or containing various drugs, etc., into the rectum and colon to empty the lower intestine or to introduce food or medicine for therapeutic purposes. Enemas are performed on a variety of patients as well as the GI patient and there are several types; but only two types will be discussed.

A cleansing enema is used to empty the lower intestines or colon of feces, to relieve flatulence (gas) and abdominal distention. The amount is ordered by the physician but usually varies between 500 - 1000 cc's for the adult. The temperature usually ranges between 105° F. to 110° F. Give the solution slowly, never hang the bag more than 18 inches above the patient's buttocks. This is done so the patient can hold the solution as long as possible before he expells it. Hopefully, he will hold it at least 5 minutes.

A retention enema is given to be absorbed or retained by the patient for a longer period of time. Four basic purposes of a retention enema are to soften feces, introduce medication, relieve irritation or to give nutritional supplements. The amount is ordered by the physician but usually varies between 90 and 120 cc's. The retention enema should be given very slowly with little or no pressure behind the flow. The pressure can be controlled by keeping the bag approximately 12 inches above the patient's buttocks. The patient should be left on his left side and instructed to be quiet for at least one hour.

For diagnostic tests, enemas are ordered to be given "until clear," meaning that the solution expelled is clear, or free of solid feces. You must remember to give no more than three enemas in succession without allowing a period of rest and consulting the nurse or you may cause undue harm to the patient.

Gallbladder Series (Cholecystogram)

This is an X-ray examination of the gallbladder by means of absorption of an orally ingested radio-paque dye.

Physical preparation of the patient includes weighing the patient the day prior to the test, a fat free supper the evening before, ingestion of Telapaque tablets with small sips of water the evening before based on the weight of the patient and NPO after the tablets have been ingested.

Nursing care responsibilities includes weighing the patient and recording the weight the day before the test, insuring the proper diet is followed, insuring proper administration of Telapaque tablets the evening before the test, and maintaing NPO after the tablets are ingested.

THERAPEUTIC PROCEDURE

Gastric Suction

This procedure uses intermittent suction to remove gas, fluids or stomach contents through a levin tube passed through the nose into the stomach. Intermittent suction provides a short rest period as that tissue or debris can fall away from the openings of the levin tube.

This procedure is almost always done by a physician but you may be called on to assist so you will need to know what is going on to be a helpful assistant. First, you must have ready a levin tube, ice chips, a syringe, an emesis basin, protection for the patient's clothing, tape, a stethascope, glass of water, and the suction apparatus.

The doctor will then explain the procedure and answer any question the patient may have. The tube is passed through the nose (or mouth, if absolutely necessary). Sterile disposable tubes are used to prevent cross-contamination. The person inserting the tube may wear gloves but this is not necessary however good handwashing must be undertaken both before the procedure to prevent gross infection to the patient and infection of the doctor and the technician.

The tube is measured for proper length by placing tip of tube over stomach and running tube over and behind the patient's ear. The length should be marked by placing a piece of tape at the proper place. After this, the tip of the tube should be put into a bowl of ice to chill the tip. This makes insertion easier and prevents the tube from coiling up in the nasal passage.

The tube is then passed through the patient's nose until it comes into sight in back of the mouth. The tube is then inserted down into the esophagus by having the patient sip small sips of water and swallowing. The water helps the tube to go into the esophagus and not the trachea. Also water acts as a lubricant so the tube goes down easier. Continue pushing the tube until the tape mark comes to the nostril.

The location of the tube in the stomach is then checked by aspirating some stomach content into a syringe or placing the tube into a glass of water. If it bubbles, it is in the lungs and must be removed immediately. Sometimes the doctor will quickly inject a syringe-full of air into the stomach. If the tube is in the stomach, he will be able to hear the rush of air.

Once it is determined that the tube is in the stomach then it must be taped to the patient's nose and the side of his head. Then connect the tube to the suction apparatus and turn it on Low.

Set the curved basin and bag aside and place the patient on a warm bedpan and encourage him to retain the solution for the required time.

PRINCIPLE. Contracting the abdominal and perineal muscles helps to empty the colon. This is easier in a sitting position. Fluid helps to soften the feces and makes expelling it easier.

Elevate the backrest if it is permissible, and place the toilet tissue and call bell within the patient's reach. Check on the patient frequently while he is expelling the enema. Take the used equipment to the utility room. When the patient is finished, remove and cover the bedpan; assist the patient with cleansing, if necessary. Remove the bedpan and the treatment sheet to the utility room. Check the contents of the bedpan and report the observations to the nurse. Allow the patient to wash his hands. Make the patient comfortable. Use room deodorizer if necessary.

Caring for the Equipment

Discard all disposable equipment. Rinse the bedpan, wash with warm, soapy water. If the automatic bedpan washer is used, use steam for one minute after flushing.

QUESTIONS

1. An enema is the ______________________________

____

____

2. An enema that is absorbed or held for a longer period of time is called a

______________ ____________.

3. Four purposes of a retention enema are:

   a. ______________________________

   b. ______________________________

   c. ______________________________

   d. ______________________________

4. The usual amount of a retention enema is ____________ cc's.

5. A cleansing enema is used to ______________________________

____

____

6. The temperature for enemas is ______________________________.

7. The enema tube is inserted ____________________ inches.

8. If the patient complains of discomfort, you should ____________________

____

____

The equipment needed for an enema includes a disposable enema unit, a roll of toilet tissue, linen protectors, a bedpan, water thermometer, IV pole, and a curved basin. The patient is placed in the left or right Sim's position or back lying position. The left Sim's position is considered the best as it provides a better position for the intestines.

PROCEDURE

Preparing the Equipment

Prepare the solution as ordered at a temperature of 105° F. to 110° F.

PRINCIPLE. The solution should be approximately at body temperature when it reaches the colon. It loses heat as it travels through the tubing. Heat stimulates the mucous membrane.

Allow the solution to run through the tubing to expel the air, and clamp off the tubing. Lubricate the end of the tubing. Collect the remaining equipment and take it to the patient's bedside. Place the bedpan on a chair and the other equipment on the bedside table.

Preparing the Patient

Explain the procedure to the patient and screen him.

Lower the bed, turn the patient on his left side, and instruct him to flex his knees.

PRINCIPLE. This position is known as the Left Sim's position. Gravity aids the flow of fluid when the patient is on his left side.

Fold back the bedclothes so that only the anal region is exposed and place the linen protector under the patient's buttocks. Instruct the patient to breath through his mouth while receiving the enema.

Administering the Enema

Place the curved basin next to the anus.

Open the clamp on the tubing and allow a small amount of solution to run through the tube into the curved basin; pinch off the tube.

PRINCIPLE. You must determine that the tubing is open. You do not want to introduce air into the colon.

Raise the upper buttock, locate the anus and gently insert the tube three to five inches; hold the tube in place with the right hand.

PRINCIPLE. Anal canal is 1 1/2 to 2 inches long, and 3 to 5 inches ensures entering the colon. Slow insertion is less likely to cause spasms of the intestinal wall.

Allow the fluid to flow into the rectum slowly.

PRINCIPLE. Gravity aids the flow of the fluid. The higher the bag the more rapid the flow and the greater the pressure on the colon. The more pressure on the colon the greater the urge is to expel the fluid.

If the patient complains of discomfort or "cramps," pinch the tubing for a few seconds and then continue more slowly. Discontinue the treatment when a small amount of solution remains in the bag. Clamp the tubing and remove the tubing gently; wrap the soiled end in toilet paper and place it in a curved basin.

19. Remove bedpan.

20. Make patient comfortable.

21. Clean and store equipment.

CHECKLIST VI - 6d
PREPARATION AND ADMINISTRATION OF ENEMA

Note: You have learned that it should take 8 to 10 minutes for 750 cc solution to flow in during the administration of an enema. Since our main purpose is to acquaint you with the procedure and equipment necessary for administering an enema, we will conserve time by using 350 cc solution and regulating the flow to 4 to 5 minutes instillation time. Simulate administration using a basin for the rectum.

Procedure	Point Value	Satisfactory Unsatisfactory
1. Fill the bag with 375 cc tap water.	3	
2. Check temperature of water to be 100° F. to 105° F.	5	
3. Expel air in tubing and clamp off the tubing.	5	
4. Simulate lubricating the end of the tubing.	5	
5. Collect remaining equipment		
a. Modesty sheet	1	
b. Bedpan	1	
c. Linen protector	1	
d. IV pole	1	
e. Curved basin	1	
f. Bath basin	1	
6. Explain the procedure to patient.	3	
7. Cover patient with modesty sheet, fan fold sheets to the foot of the bed.	5	
8. Position patient in left Sim's position.	5	
9. Place linen protector under patient's buttocks.	5	
10. Place curved basin next to patient's buttocks and expel air from tubing.	5	
11. Inform patient prior to inserting the enema tube.	5	
12. Simulate inserting the tubing 3 to 4 inches.	5	
13. Hang enema bag 12 to 18 inches above the buttocks.	5	

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4. Simulate lubricating the end of the tubing.
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    b. Bedpan
    c. Linen protector
    d. IV pole
    e. Curved basin
    f. Bath basin
6. Explain the procedure to the patient.
7. Cover patient with modesty sheet, fan fold sheets to the foot of the bed.
8. Position patient in left Sim's position.
9. Place linen protector under patient's buttocks.
10. Place curved basin next to patient's buttocks and expel air from tubing.
11. Inform patient prior to inserting the enema tube.
12. Simulate inserting the tubing 3 to 4 inches.
13. Hang enema bag 12 to 18 inches above the buttocks.
14. Open the clamp and regulate flow to take 4 to 5 minutes to instill solution (in a basin.)
15. When air enters tubing, clamp it off.
16. Inform patient prior to removal of enema tube.
17. Simulate removal of enema tube.
18. Assist patient onto bedpan.

Procedure	Point Value	Satisfactory Unsatisfactory
14. Open the clamp and regulate flow to take 4 to 5 minutes to instill solution (in a basin.)	5	
15. When air enters tubing, clamp it off.	5	
16. Inform patient prior to removal of enema tube.	5	
17. Simulate removal of enema tube.	5	
18. Assist patient onto bedpan.	5	
19. Remove bedpan.	5	
20. Make patient comfortable.	5	
21. Clean and store equipment.	5	
Total	100	

Students must correctly accomplish 65% of the items on the checklist.

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DEPARTMENT OF NURSING

MEDICAL SERVICE SPECIALIST

THE GERIATRIC AND CHRONICALLY ILL PATIENT

July 1975

SHOOL OF HEALTH CARE SCIENCES, USAF
SHEPPARD AFB, TEXAS

Designed For ATC Course Use

DO NOT USE ON THE JOB

713

Department of Nursing
School of Health Care Sciences, USAF
Sheppard Air Force Base, Texas 76311

SW 3ABR90230-VI-7
July 1975

THE GERIATRIC AND CHRONICALLY ILL PATIENT

OBJECTIVES

1. Select terms and basic principles related to the aging process.

2. Select terms and basic principles related to the care of the chronically ill patient.

3. Select the basic patient needs and nursing care approaches for the geriatric and chronically ill patient.

INTRODUCTION

Winston Churchill, Dwight Eisenhower, Mahatma Ghandi--do you recognize these names? Can you recall their contributions to the world? Do you realize that many of these contributions came after the age of 65, when most people are considered "old" and of little value to the present generation? Old age does not mean that a person is useless. You, as a Medical Service Specialist, must be aware of this. Do not discard the elderly patient. He is someone quite special. He may be your grandfather right now, or your father, but in time he will be you! Would you want to be discarded as an old worn out piece of equipment, no longer able to be productive or useful?

There are some societies in today's world that still practice this policy! The elderly or geriatric patient is the individual with whom we are now concerned. Many geriatric patients can also be classified as chronically ill patients. However, all chronically ill patients are not always geriatric patients, as you will see.

The care of the geriatric and chronically ill patient will perhaps not ignite you with a burning desire as, for instance, the care of the pediatric patient (a child has his life ahead of him); however, you do have responsibilities to the elderly patient and that is to give him the dignity he well deserves for having led a long and productive life.

1. Read this study guide/workbook.

2. Answer the review questions.

3. Read Geriatric and Chronically Ill section of the Terminology Programmed Text prior to class discussion.

This publication supersedes SW 3ABR90230-V-2, April 1974

INFORMATION

TERMINOLOGY

Geriatrics -

Senescense -

Gerontology -

Senility -

THE AGING PROCESS

The aging process is a general slowing down of many body processes. There are many changes that are associated with the aging process, but we are going to discuss nine basic characteristics.

1. Physical Appearance

2. Cardiovascular System

8. Musculo-skeletal System

9. Psychological Changes

5. Digestive System

6. Urinary System

7. Special Sense Organs

THE CHRONICALLY ILL PATIENT

You will learn about the obstetrical patient, the pediatric patient, the surgical patient and others, the majority of whom are diagnosed, treated and discharged within a given period of time. This is not true with regard to the geriatric or chronically ill patient. Remember the neurological patient - perhaps with permanent spinal cord damage? That patient will never walk again. This is a chronic condition. A chronic illness requires special training for the patient in the process of rehabilitation and this usually includes long periods of supervision and care. You, as a Medical Service Specialist, will be in direct contact with chronically ill patients--more often than the physician. Therefore, you will take a direct responsibility in caring for this patient.

TERMINOLOGY

Chronic Illness -

Empathy -

Rehabilitation -

Remission -

Exacerbation -

Nature of Chronic Illness

According to the National Health Survey, heart conditions, arthritis, rheumatism, mental and nervous disorders, spinal and leg impairments and visual impairments are the leading causes of activity limitations in the chronically ill.

Some other chronic disorders that are frequently seen are:

QUESTIONS

1. Match the following terms with the correct definition in the opposite column.

1. Senescence	a. The study of aging and the care of the aged.
2. Senility	b. The process of growing old.
3. Gerontology	c. The study of aging and its diseases.
4. Geriatrics	d. The characteristics of aging.

2. List one normal change of aging for each of the following systems:
    1. Cardiovascular -
    2. Neurological -
    3. Respiratory -
    4. Digestive -
    5. Special Sense Organs -
    6. Psychological -

2. Elimination

3. Personal Hygiene

   a. Skin care

   b. Oral Hygiene

   c. Care of hair and nails

   d. Clothing

4. Safety

The older or chronically ill patient may be unsteady on his feet or may use poor judgement as to what he can or cannot do safely. The nurse and the MSS are responsible

Allergies
Tuberculosis
Arterilsclerosis
Rheumatic fever
C.V.A. (stroke)
Gastric ulcers
Hemorrhoids
Diabetes
Cancer
Epilepsy
Hernias

Extent of Chronic Illness

There are many more chronic disorders; however, we chose to list only a few in an attempt to demonstrate the extensiveness of chronic illness. Of the 200 million people in the United States, 73.8 million have a chronic illnes; 17 million have limitations due to their chronic illness. Of these 17 million, 1/3 are under 45 years of age, 1/3 are between 45 and 65 years old, and 1/3 are over 65. Almost one million of the people suffering from chronic illnesses are confined to home and another one million require the aid of another person to get around.

QUESTIONS

I. Match the following terms with the correct definition in the opposite column.

1. Chronic illness	a. to restore to a condition of health or useful activity
2. Empathy	b. A period of control; or absence of symptoms
3. Rehabilitation	c. Recurrence of symptoms
4. Remission	d. Placing yourself in another's position
5. Exacerbation	e. Of long endurance or with frequent recurrence

II. Approximately how many of the U.S. population have a chronic illness?

PATIENT NEEDS AND NURSING CARE APPROACHES FOR THE GERIATRIC AND CHRONICALLY ILL PATIENT

Now that we have discussed some of the changes brought on by aging in the geriatric patient and you are more familiar with chronic illness we will discuss some common basic approaches for both types of patients. In many cases the needs and approaches are quite similar, therefore, the following needs and approaches in most cases can apply to both types of patients.

1. Nutrician

Independence and Dignity

Another important patient need is the humanistic preservation of the dignity and independence of the patient as an individual. You should always strive to encourage the patient to do as much as possible for himself. This will help the patient maintain his independence. Give him sufficient attention so that he doesn't have to rely on physical complaints for attention. This patient is human with feelings of happiness and loneliness just like you. Within his mind he has the same psychological needs as you; for instance, the need for love, companionship, recognition, belonging and security. His needs are complicated by the many psychological changes associated with old age or chronic illness. Quite naturally, there may be a change of personality. This change is brought on by the patient's realization of his own limitations. You should exhibit empathy, patience and hope. You must deal with the patient's reactions individually. He may have a fear of invalidism, fear of death, or a fear of helplessness and dependency. Many times he *is* dependent upon someone else. When caring for this person, we have to take into consideration both his mind and his body. Without a desire to live, he may simply give up and die.

Rehabilitation

The final aspect, rehabilitation, is a very vital part of nursing. It involves complete team effort. The team consists of the patient, family, physician, nursing personnel, physical therapist, social worker and the vocational counselor. It is essential that the patient's attitudes, motivation, and acceptance be stimulated to facilitate rapid and successful rehabilitation. No matter how much love, care and teaching you give, the patient is the one who must be rehabilitated. Without his help, all other efforts are in vain.

QUESTIONS

1. Who is the most important member of the rehabilitation team? Why?

2. What can we do to help the patient who has trouble chewing his food?

for making sure that the patient is protected and does not become injured.

These patients may require your assistance with getting out of bed and with walking.

Bedrails may be required on the beds of elderly patients at night because they are mor likely to become confused when it is dark. Some patients will need bedrails all the tim These patients should be instructed to ask for help if they wish to get up to go to the bathroom.

Sometimes restraints are needed but this should not be done unless it is absolutely necessary and is never done without a physician's order.

An antislip substance or device must be put into the bottom of the bathtub or shower. The patient should not be allowed to shower or go to the bathroom alone, unless you are absolutely sure it is safe for him to do so.

5. Communication

a. Many older patients have difficulty in communicating because of failing sensory systems. However, they should be encouraged to communicate in any way that they can so that they won't feel isolated or rejected.

b. Hearing loss -

c. Aphasia -

d. Vision impairment -

6. Physical activity and exercise

Physical rehabilitation is a very important part of the total health program because it is vital to keep moving and exercising to maintain circulation, muscle tone, and general health, as well as prevent deformities which may occur from disuse.